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ABSTRACT

Instructor responsibilities, procedures for completing activities safely, and instructional methods and techniques are outlined to assist instructors in the Northwest Outward Bound School (Portland, Oregon) as they strive for teaching excellence. Information is organized into six chapters addressing: history and philosophy of Outward Bound; course design; role and legal responsibilities of instructors; safety policies; course curriculum; and administrative procedures for course reporting, staff evaluation, dropouts, and vehicles. The curriculum chapter elaborates the purpose, safety procedures, teaching considerations, and syllabus for the following topics: clothing and equipment, care of feet, water safety and swimming, conditioning, backcountry code (minimum impact, campcraft, fire, sanitation, hygiene), shelters and stoves, fire building and suppression, food, accident and emergency management, lost and alone (including helicopter evacuation), search and rescue, axe and knife, initiative and ropes course, first aid, ankle and knee problems, map and compass navigation, snow travel, rock climbing and rappel, peak climbs, service projects, solo, final expedition, marathon, reflection and evaluation, course ending, river crossings, Tyrolean traverse, and sauna. (NEC)

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NORTHWEST

OUTWARD BOUND

INSTRUCTOR'S

MANUAL

Northwest Outward Bound School
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Ian R. Wade

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

INTRODUCTION

This Instructors Manual has grown over the years with our developing experience in offering safe and high quality programs. The annual revisions by Chief Instructors and Program Directors together with borrowing some sections from other sources do not make this a "light" reading volume.

It is important, however, that you study this manual closely. It outlines your responsibilities as an Instructor, procedures for completing activities safely and instructional methods and techniques.

If you find this manual inadequate, inaccurate or confusing in any respect I would appreciate hearing from you. This book is intended as an aid to help you strive for excellence in your courses.

Ian R. Wade
Program Director

April 1981

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I

HISTORY AND PHILOSOPHY OF OUTWARD BOUND

The roots of Outward Bound are embedded in the soil of post World War I Germany and the imagination of Kurt Hahn. The son of middle class parents of Jewish descent. Hahn was an eclectic who drew together the thought and experience of many ages to form a curriculum which was the basis for a variety of schools and programs. Salem, Germany; Gordonstown, Scotland; and Anavryta in Greece were three of many schools founded or directly influenced by Hahn. Outward Bound, the Duke of Edingburgh's Award Scheme, and the United World College of the Atlantic bear Hahn's imprint. All were attempts to apply fundamental concepts to particular social and political circumstances.

In an address delivered at a conference at Harrogate in 1965 Hahn related:

> "I am not the founder of Salem. That was Prince Max of Baden. And I am not the originator of what has been called the Salem System of Education. Shortly before he died Prince Max led an enthusiastic American friend round his schools. The friend asked: 'What are you proudest of in your beautiful schools? Prince Max answered: 'I am proudest of the fact that there is nothing original in them; it is stolen from everywhere, from the Boy Scouts, the British Public School, from Plato, from Goethe.' Then the American said: 'But, oughtn't you to aim at being original?' Prince Max answered, 'In Medicine, as in Education, you must harvest the wisdom of a thousand years. If you ever come across a surgeon who wants to take out your appendix in the most original manner possible, I strongly advise you to go to another surgeon."

Key among the elements of Hahn's approach are the Greek emphasis relating mind and body; the primacy of experience within education as described by John Dewey; the desirable qualities which emerge in human effort under stress and which William James urged be nurtured through a moral equivalent of war; and finally the need for compassion expressed by William Temple and embodied in the parable of the Good Samaritan.

It is interesting to see these themes, many of which are central to Outward Bound today, appear in the curriculum of Salem and Gordonstoun.

During the First World War, Kurt Hahn joined the Foreign Press Centre of the German Foreign Office and became Private Secretary to Prince Max of Baden. Thus it was in the field of politics, not of education, that he was first active, although from early youth and in his student days at Gottingen and then Oxford he had reflected on and studied the principles and the effectiveness of education. He read the classics, and many of his ideas developed from Plato. He admired the British public schools of the Victorian era which overtly fostered a sense of public duty in their pupils, and thought the perfect system gave a calculated system of self-government. Here was a very real contribution towards the democratic education of the nation as a whole which could, he believed, be adapted to the German boarding schools, and could, if systematized, have an important effect on post-war Germany. From England too and the Greeks he saw the value of a healthy balance of athletic and sporting activity with academic training.

When Prince Max resigned from the Office of German Chancellor he had failed to achieve his political aims, and many of his hopes had been disappointed. In Prince Max Kurt Hahn had an ally in his educational aims: their hope was that the rising generation might take their civic responsibilities more seriously than their predecessors. Prince Max made a wing of his castle, Schloss Salem, available for a school. He made his son the first

> pupil, and became the school's first patron. Their educational aim was to awaken in the pupils a sense of duty as citizens. A great believer in the effectiveness of habit and practical experience in guiding behavior, Kurt Hahn tried to bring about in them a greater readiness to serve the country, having served their fellow men, first of all, at school.[1]

Characteristic elements of the Salem system included training, self government, work, field games, craft guilds, and an expedition into the surrounding countryside. Another philosophical stance which carries through to the present day Outward Bound had to do with the social mix within the school.

> Kurt Hahn convinced wealthy parents that is was necessary for their children to be freed from the enervating burden of coming from the wealthy, privileged classes by being educated alongside children who had been familiar with the struggle for existence since their earliest days. He persuaded these parents to pay not only for their own children, but to contribute enought to allow Salem to continue to give reductions in fees or award free places for 40 per cent of the pupils.[2]

In 1932 following the Beuthen murder and Hitler's telegram in praise of his murderer-comrads, Hahn called upon the members of the Salem former pupils' association to choose to break either with the school or with the party.[3] This action led to

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[1] Marina Ewald, "Salem School 1919-33: Foundation and Expansion" in Kurt Hahn by H. Rorhrs and H. Tunstall-Behrens (London, 1970), p.22

[2] Ibid., p.34

[3] Professor Golo Mann, "Kurt Hahn's Political Activities" in Rohr, Op.Cit., p.145

his arrest and imprisonment. Because of the influence of friends such as Ramsay MacDonald, the British Prime Minister, and the Margrave of Baden, the son of Prince Max, Hahn was released and went to England.[4]

In England Hahn began to transplant his educational ideas into a new school at Gordonstoun, Scotland.

> It may be helpful if I list a number of things which in 1934 Hahn regarded as characteristic of the Salem "system" which his new Gordonstoun was to "demonstrate." The worlds of action and thought must "no longer be divided into hostile camps." Special steps were necessary to build up "the imagination of the boy of decision and the will-power of the dreamer so that "wise men will have the nerve to lead, and men of action will have the vision to imagine the consequences of their decisions." This meant in practice insisting that every boy should use the confidence gained in opportunities the school would provide for each to indulge in what he was good at, to help him to overcome his own defeatism in things distasteful. "No boys should be compelled into opinions; but it is criminal negligence not to compel them into experience."[5]

The years that followed the founding of Gordonstoun saw Hahn add seamanship to the curriculum because he felt it was necessary to introduce youth to danger and adventure, to create a learning environment that would provide what William James called, "a moral equivalent of war." From the use of the sea and the increasing interest in the use of the mountains for sport and relaxation by many people, the concept of training for reserve became a part of Gordonstoun's

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[4] Gary A. Templin and Philip W. Baldwin, "The Evolution and Adaptation of Outward Bound 1920-76," private paper (COBS, 1976) p.5

[5] Henry Brereton, "Kurt Hahn of Gordonstoun." in Rohr, Op.Cit., p.46

curriculum. Hahn never advocated adventure as an end in itself, but rather as a training vehicle through which youth would mature. It was vital for adventure to be tied together with the concept of reserve and service to the community. Through unselfish action and dramatic rescue situations youth would also learn compassion, an element Hahn though was missing in post-war Britain.

With Gordonstoun becoming well established and accepted in the British educational structure, Hahn turned some of his attention to trying to extend his ideas to other educational institutions. He was mainly interested in promoting the concept of regular physical training and development of simple athletic skills with and expedition that would test basic knowledge about map-reading and mountaineering and require stamina and determination on the part of the participants. To accomplish this, he developed a syllabus of activities that would lead to an award called the Moray Badge.

After the start of the war, in the summer of 1940, the Gordonstoun school was moved to Wales. Here Hahn met James Hogan, who was to become Warden of the first Outward Bound School. During 1941, Hahn and Hogan tried unsuccessfully to drum up support for the County Badge scheme, which they hoped would be incorporated into schools and youth organizations. Encountering little support, Hahn proposed as a last ditch effort that Hogan become the warden of a training centre which would demonstrate the concept and make it more understandable, thereby increasing the necessary financial support to maintain operation. Hahn found a suitable site at Aberdovey, Wales, a small harbor where he brought the schooner "Prince Louis" and some small boats that had been used in the Gordonstoun sailing program. He then contacted Lawrence Holt, the head of a large shipping firm and a long time admirer of Hahn's educational philosophy, for financial support.

Holt was concerned by the fact that even though his ships were manned by highly skilled seamen, they had not been trained to deal with the hazards they encountered during the Battle of the North Atlantic. When their ships were sunk, the seamen were often unable

or unprepared to survive the ordeal of living in life boats until they were picked up. At this stage some of the Outward Bound philosophy we still know today comes up. Hogan says of Holt:

> ...he deeply regretted the passing of the square-rigged ships in which earlier generations of seamen had received their basic training. He believed that, denied engines and complex instruments, men had developed a sense of wind and weather, a reliance on their own resources - physical, nervous and technical - and an almost spiritual sense of fellowship and inter-dependence.

Certainly here is a notion which would be accorded universal support from the legions of uncompetitive "humanistic" Outward Bounders of America in the mid-seventies. While their awareness of such ideas comes more from snow mobiles and a polluted mechanized society, rather than the excess loss of life Holt saw in the Battle of the Atlantic, the root message is the same.

With these considerations as background, the first Outward Bound School was founded to prepare young seamen to survive the rigors of being adrift on the Atlantic. Hahn, Holt and Hogan, brought together by an "historical accident", combined their talents to form an institution that has spread throughout the world and been adapted to a wide variety of other institutions.[6]

The Educational Thought of Kurt Hahn[7]

Time and again the most powerful stimuli to educational thought and strategy have originated from great educational outsiders - men who were not bound to any academic school, and so were in a position to challenge ideas which had become an accepted part of

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[6] Templin and Baldwin, Op.Cit., pp.6-9

[7] Excerpted from Hermann Rohrs, "The Educational Thought of Kurt Hahn" in Rohrs and Tunstall-Behrens, Op.Cit., pp.123-55

the establishment of their time. They did not confine themselves to the orthodox academic side of education and to problems of classroom technique; for them education had to do with the whole man, with his fulfilment and development - his renaissance... In this context Kurt Hahn stands out as one of those important personalities who warm and inspire, as a man who, convinced of the moral and spiritual decline of certain sections of society, is fired by a deep sense of responsibility to change society by means of education reforms...

The whole range of ideas characterizing Hahn's educational theory, which from 1941, along with Salem and Gordonstoun, also embraced the first Outward Bound School at Aberdovey in Wales, would probably never have materialized in the normal run of events. The necessity of making a fresh start gave a powerful impetus to their evolution...Two years after the foundation of the first Outward Bound school in Aberdovey, when Sir George Trevelyan named the school's schooner "Garibaldi", he said: "If ever youth loses the thirst for adventure, any civilization, however enlightened, and any state, however well ordered, must wither and dry up."

Where modern industrial society fails, Hahn saw in it an ever more urgent imperative to provide youth with an urge for adventure. Looking back over his experience at Salem and Gordonstoun, he has always opposed the conventional view the crises and lethargy of adolescence are an inevitable stage in development. In accordance with Rousseau's belief that tasks motivated by social and moral concern help to alleviate the problems of puberty, Hahn devised the various facets of his "experience therapy", the cultivation of innate fights and absorbing personal interests, and training in self-discipline.

"Experience therapy" is one of the basic tenants of Hahn's conception of education. In modern society, in view of the complicated requirements of life, young people are kept in the dependent position of learners well into the age of adulthood; yet they need to test and prove themselves if they are to discover and realize themselves. Youth is socially sick because

in the framework of modern society it is not led by natural challenge to its powers to develop the basic human capacities. In this situation a corrective is required, and it is provided in Hahn's scheme by an elastic system of training devices; the break for athletics, the expedition, the project and the rescue service; these can be used either singly or in combination. For this a strong mutual respect between teacher and pupil is necessary and an acceptance of sensible limits to freedom...

But behind what seems at first a Spartan style of education which values what is bold and daring is concealed a carefulness to do justice to the needs of each individual. Hahn's aim is to suggest and to lead from the sidelines, by contrast with Lietz's patriachal style of direction modelled upon the management of a farm. Thus the elements of "experience therapy" are directed less towards intellectual and emotional toughening than towards producing, in Platonic fashion, integrity of soul...In its fully developed form, Hahn's answer to the problem is... a form of fresh youthful experience which makes it possible for young people once again to feel wonder and astonishment, and so, contemplating to look outwards and upwards to the new horizons. The experience itself has no more than an ancillary function - namely, to uncover the deeper layers of the human personality, which in our everyday life have all too often been overlaid by conventions of civilization. The educative softening of hardened souls and their remoulding in beauty in accordance with the Idea of Man is the Platonic picture of this process. And so, by way of example, success in holding out to the end of a contest, rescue service, the completion of a task, a shared adventure can bring the growing youth into a fresh relationship with the basic forces of life, and so lead him back to Nature, his neighbor and himself.

This principle of dialogue, which ultimately links the urge to self-realization with active service of his neighbor, is the eduationally constructive element. It also gives Hahn's concept of education a dynamic aspect: an appearance of perpetual outgoing, of a deep restlessness in the service of outward or inward suffering. This background explains the relative lack

of hard contours in this thought and its high degree of receptiveness for any ideas that might be serviceable. Its goal remains essentially the renewal of life by imposing conscious and binding form upon the pupil's experience and relations with his fellow-men. Thanks to this quite new kind of confidence in the world and himself, hitherto unrealized forces can be released and fresh tasks envisaged. The Platonic image of a conversion of souls away from the shadow into clear light seems to be thoroughly appropriate here. This form of "experience therapy" is the central link connecting Salem, Gordonstoun, Atlantic College and Anavryta and the short-course schools.

In so far as the concept of an elite is at all appropriate, it can only signify this new kind of "nobility of soul" which has no connection with rank...

Fundamentally the intention is to rescue the gaining of knowledge from the distorted perspective of the teaching of school "subjects," and to link it up again with its natural and original motivation in practical needs, personal inclination, the desire to dwell on and think through some topic or other. The knowledge acquired thorugh this living connection with practical needs is able to affect the pupil's life and his responsible shaping of it. To have learnt to restrict one's knowledge in face of the demands of what is ultimately valuable and worthwhile in life is the objective criterion, and can be ethically justified. A young person who grows up into a clear pattern of life of this kind cannot give up this integral framework again without a struggle, because it has become for him a habit or, in Hegelian terms, second nature.

Thus the morally responsible man, not the scholar or artist, is the educational ideal of this school - this is, the man who is committed to the idea of the good and to justice and who regards professional skill as part of his task as a citizen in society. The

training aims to inculcate an intelligent adaptation and, where necessary, subordination of his personal interests and desires to the larger context of the whole. And so, even outstanding sporting achievements - despite the recognition that fitness must complement academic study - have only a limited justification. Like scholarship or artistic skill, they are only byproducts in a course of education that strives to achieve much wider aims in the service of the whole man.

The goal remains "energetic action," which in a democracy forms a vitally necessary correlative to sound moral sentiments. To this end the Salem "Rule," which has influenced the basic educational outlook of the rest of the educational world, demands that the following requirements be fulfilled: "Ability to effect what (he) has recognized to be right, despite hardships, despite dangers, despite inner scepticism, despite boredome, despite mockery from the world, despite emotion of the moment."[8] Courage becomes general human capacity "to overcome fear."[9] This courage meets its supreme test in risking all for one's fellowmen.

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[8] Kurt Hahn, "Education and the Crisis of Democracy," p.30. Speech delivered on the occasion of being awarded the Freiherr vom Stein Prize, 1962.

[9] Kurt Hahn, "Education to Responsibility," p.60.

NOBS thanks Bob McArthur, Director of Dartmouth OB Center, for this section.

III

THE ROLE OF THE INSTRUCTOR

NATIONAL SAFETY POLICY

Staff Selection

1. Staff will be selected on the basis of maturity, sense of responsibility, experience and technical competence. In selecting staff operationally responsible for students, preference will be given to those individuals who demonstrate competence in meeting such criteria - through prior experience, through age, through evidence of successful management of responsibility especially in leadership and human relations roles, and through evidence of outdoor skill competence, particularly in stress situations.

2. Employees shall be medically fit to discharge their duties as determined by Local Procedure.

3. Every Outward Bound Instructor operationally responsible for students shall demonstrate, as a minimum, competency in a syllabus not less than that covered by an American Red Cross Standard First Aid Certificate and CPR Certificate.

Staff Training and Evaluation

1. School Director shall ensure that each staff member operationally responsible for students is appropriately trained and competent in the program elements in which the member is involved.

2. School Director shall ensure that each operating staff member is evaluated on a systematic basis and that the evaluation is communicated to the staff involved and that records will be kept.

Role of Instructor

The Instructor's role is complex, challenging and strongly influenced by individual style. Each Instructor brings an unique blend of creativity, commitment and experience to the course. The following observations speak to your role as an Instructor.

> Hahn: "It is the sin of the soul to force young people into opinions -- indoctrination is of the devil -- but it is culpable neglect not to impel young people into experiences."
>
> Hogan: "To those who seek to adopt Hahn's precept one would like to stress that behind all his practices there was a passionate concern that youngsters should not only survive the experiences but that they should emerge strengthened."

You should also establish a positive tone of unconditional regard between you and your patrol members, wherein you make each member feel he's fundamentally as capable as you. You show participants you care about them and are able to honestly disclose the way you feel about things as well as asking how it goes with them. You're involved -- and know it because it feels good when they do well and hurts when they don't.

You teach through your example:

- *safety consciousness
- *openness and honesty
- *respect for the individual (manners, language)
- *respect for the natural environment
- *personal cleanliness, camp hygiene
- *respect for equipment and personal property

You are responsible for the safety of the patrol. You must follow NOBS Safety Procedures and make judgments with respect to weather conditions, clothing, health of patrol, possible emergency situations, etc.

It is your responsibility to assess the readiness of the individuals and the patrol to accept leadership responsibility, and to give the individuals and the patrol as many decision making opportunities as possible. But you must be careful never to offer a choice unless you are willing to accept their decision -- e.g., you would not give the patrol a choice as to whether or not they go on expedition, but you might offer them a choice of several possible routes.

What we teach is Outward Bound. We are not evangelists of any other kind. We present, we impel, we offer choices, and sometimes we offer situations through which there are no choices. Your job is not to inscribe your own particular, personal set of values or ethics on the minds of your students -- that's what already has happened to many of the students who come to this school: someone has stuck them with a ready-made set of values -- but to assist your students in coming to know that they can establish their own.

The wilderness. Mostly, we teach through it, and we can teach for it. But it is not an end in itself. The wilderness happens to be one of our classrooms, but not only our classroom. It must have our consideration, our care, our respect. It is a tool which we can use, and we must maintain it properly or we will lose it. But it is only a part of Outward Bound.

Training. All staff are expected to participate in pre-season training sessions and to attend an orientation prior to each course worked. Operating in a potentially hazardous environment as NOBS does it is vital that your skills be current and that you regularly engage in personal mountaineering endeavors above and beyond that which will be expected of you during a course. These experiences are so important the Internal Revenue Service even allows you to deduct the expenses incurred from your income tax!

You have a responsibility to train your assistant in areas which may need development before they can become an instructor. Sharing your thinking about course activities, individuals in the group, safety concerns and your perceptions of group needs will be valuable for the assistant. Establishing an effective dialogue about the progress of the course can stimulate your own thinking as well as being valuable training. At the end of the course you will be responsible, along with the Chief Instructor, for evaluating the assistant and setting training goals.

Competence. If you don't have it, don't try to hide it. Ask for help. Demand of us that we teach, because it is the demand we will be making of you. You wouldn't be here if we didn't think you could do the job -- but everyone needs assistance with some aspect of the job.

Be sure of your goals for doing an activity with students and be sure that they are prepared for the experience you are impelling them into. This constant self-scrutiny will not only ensure that your course lives up to Outward Bound's educational goals, but will assure you that activities are safe. You should develop an attitude which asks: "What if an accident happened now? How would I deal with it? How would I justify the activity which caused the accident?" The following thoughts on your legal responsibilities are summarized from Don Burnett's paper:

Instructor's Legal Responsibilities

In the event of a serious accident, you, as the responsible Instructor, could be personally sued. Unless you are quite wealthy, however, it will be more productive for the plaintiff to sue NOBS, which carries a large liability insurance policy. Keep the following in mind, in regard to your legal responsibilities for your patrol:

* You must be able to clearly state the objective for each course activity. The extent to which the law imposes a duty of care upon you is determined, in large measure, by a weighing of the risk of harm against the social utility of that activity. If you cannot come up with a good reason for doing an activity, there is no justification for exposing people to risk by doing it.

* The nature and scope of risks inherent in an activity must be reasonably related to the stated objectives. Unnecessary risks must be avoided, and the danger associated with necessary risks must be minimized.

* The nature and scope of risks inherent in the activity should be fully disclosed in advance to the students. Unless the danger is obvious, the law imposes a duty to warn of reasonably forseeable risks of harm. Unless a student is made aware of the risks, with an adequate warning, he cannot later be held to have assumed the risks. The disclosure of risks must take into account the student's level of knowledge and skills.

* When a planned activity necessitates a level of skill and knowledge which a student does not possess, the activity should be modified or sufficient training given before the activity commences. In the occasional instance this may mean sending a student away from the course for his own protection.

* The law requires those possessing special expertise to exercise it, especially when others place their reliance on it. You must protect, as far as possible, the students from the forseeable risks of harm inherent in any activity. The law imposes a "rescue" duty upon you in relation to the victim of an emergency situation.

Reference: "Legal Dimensions of Recreational Program Planning," Don Burnett, Attorney at Law.

II

COURSE DESIGN

The design of the course is based on an initial period of skill training to meet the requirements of the course curriculum, a series of expeditions of increasing difficulty to develop and test the competence of participants, a period of contemplation and self-assessment (solo), and a final expedition to provide participants an opportunity to exercise primary responsibility for their continued safety and effectiveness in the wilderness. The course concludes with a period of reassessment and resolution to bring about a satisfactory termination. The aim of the Instructor throughout is to provide for increasing amounts of responsibility and self-determination for the participants as they are willing and able to become self-motivating and self-reliant.

COURSE OUTLINE

The outline of the course will include:

1. TRAINING PHASE. This is a period of instruction and limited activity designed to insure that the participant is physically fit and acquainted with the knowledge and skills necessary to engage in high-risk activities. It is also designed to familiarize him with the educational aims of the experience, school policies and environmental commitments and expedition safety procedures. During this time, he will become a member of a functioning group ready to assume increased responsibility for its functioning and survival. This is the phase of the course when participants are most apprehensive and most in need of experiences that help orient them to the strangeness of the environment and to build associations with other

members of the patrol. Instructor responsibility at this stage is primary, and close supervision of all activities is mandatory. The Instructor will seek to assess students capabilities for completing planned activities and identify potential safety concerns.

2. EXPEDITION PHASE. After the appropriate instruction has taken place, participants will be involved in a series of experiences that will include such high-risk activities as rock climbing, rappelling, mountain ascents, glacier travel, overnight bivouacs, wilderness travel and camping. This is the period of affiliation and intimacy in which strong relationships develop and the patrol becomes a functioning unit. It is also a time of peak experience and increasing awareness and catharsis for the individual which provides for mutual sharing and close bonding within the patrol. Emphasis will be on transferring as much responsibility and decision making to the student as is possible within the confines of maximum safety.

The training and expedition phases of the course are often interwoven at NOBS with application following rapidly upon training. The two phases are separated here to stress the need for appropriate training to precede the expedition activities.

Sometime during the expedition, the group is given the opportunity of performing a selfless service. Such service may be assisting with trail maintenance or construction, removal of trash from a Wilderness area, or spending a day with hospital patients, or the elderly. Sometimes the service project is an unscheduled search and rescue or firefighting operation. But whatever the means, the purpose is to experience the manifold benefits of giving of one's self.

3. SOLO. This will be a period of no more than three days and three nights when the participant will be isolated and left alone with the minimum food and equipment necessary to insure safety and prevent a serious depletion of strength and energy. It is the beginning of the process of integration and resolution in which the individual is encouraged to reflect on his experience

and integrate whatever insights may have been received.

4. FINAL EXPEDITION. This will be a period of three or four days in which participants, in minimum groups of four, will travel unaccompanied by the Instructor (unless weather or other conditions demand supervision in the interest of safety) and will be responsible for their own safe negotiation of the terrain to an established destination

This is a time of increased responsibility and self-determination designed to encourage the participant to test new insights and means of functioning with others in the wilderness setting. It is the beginning of the separation process from the original patrol and an opportunity to re-establish contact with other individuals and to make the transition back to the larger society.

5. CONCLUDING PHASE. Each traditional course will generally end with a marathon run of variable length according to the conditions and the nature of the participants. This is the period of final resolution of those conflicts and concerns that have not been brought out or concluded during the course. Similarly, it is a time for review of the impact of the course and of feedback for both participants and staff. Instructors should take a primary role in this process to bring the course, through interviews and patrol debriefing, to a satisfactory and satisfying termination.

IV

SAFETY POLICY

NATIONAL SAFETY OBJECTIVES

The National Safety Objectives of Outward Bound are to

1) Eliminate fatalities, drabling injuries and serious illnesses
2) Reduce other accidents, illnessess and injuries

NATIONAL POLICY STATEMENT ON SAFETY

It may be said that students at Outward Bound are invited to take part in activities in which the risk of an accident may be greater than in their normal way of life. In consequence, there rests on those in charge of training a special responsibility to ensure that adequate and continuous precautions are taken to prevent accidents. This responsibility, however, goes further than a merely negative approach based on restricting activities within safe limits. The principle is not to avoid activities involving risk, but to prepare participants both by technical training and physical fitness to deal with them competently. The aim is to teach that the more adventurous an undertaking, the more care and prudence are called for to succeed.

Hazards should not be sought for their own sake. It must be the aim to be so organized as to forestall the hazards as far as possible, but so trained that they can be mastered if they come.

Safety is to be an integral part of the training and experiential process of Outward Bound. It is to be woven into all Outward Bound programs and exemplified by the word and action of each Instructor. Safety involved not only overt precautions to prevent accidents, but also a "what if" attitude toward every experience.

OUTWARD BOUND, INC.

Is the national organization of American Outward Bound. One of its charges is the safety of

programs conducted by the schools. Safety inspections are conducted biannually at each school to ensure compliance with the safety standards set forth in the National Safety Policy. More frequent local safety inspections are made by the NOBS Safety Committee composed of trustees and consultants.

NATIONAL SAFETY POLICY

This is the official policy for schools, centers and other organizations chartered by Outward Bound in the United States including trustees, staff and students. Training and practical day-by-day Outward Bound experience will follow the principles set forth in the Policy at all times and in all Outward Bound activities.

A copy of the complete National Safety Policy is available for your perusal in the office and the following extracts should be noted:

A. Safety policies shall apply regardless of the skill level of participant.

B. A safety briefing which sets an appropriate tone shall be a part of every potentially dangerous activity.

C. No individual will be placed in a position of responsibility for the safety of others without first having received specific instruction and demonstrated the ability to perform satisfactorily to the appropriate supervisor.

D. Staff operationally responsible for students are required to be personally familiar with and trained on the types of terrain upon which program activites will take place, e.g. rock climbs, water areas, expedition areas, etc.

E. Any person who takes part in Outward Bound activities and who is not employed as program staff by the School is hereby termed a particpant. As such, that person or persons must adhere to all relevant safety policies and procedures pertaining to participants.

F. Exceptions to this policy may be approved by the School Director on a case-by-case basis, e.g. trustees, visiting staff from other schools, staff relatives and friends, local administrative staff, visitors from the general public or organized groups, safety review teams, etc.

G. No one may participate in any activity sponsored by Outward Bound without the specific permission of the School Director or Program Director.

H. Students shall not be permitted to participate alone (i.e. on his/her own, away from the group or instructor) in any of the following planned activities:

- mountaineering
- rock climbing
- swimming and drownproofing
- boating of any kind
- rafting/tubing
- caving
- expedition travel
- ropes course

I. All personnel shall wear helmets when rock climbing and whitewater kayaking.

J. Participants shall be protected by safety devices or techniques in situations where appropriate.

Expeditions

A. General

1. Expedition groups shall not divide except in an emergency or unless approved by the instructor.

2. Groups shall carry suitable survival equipment.

3. Expedition groups shall file expedition plans with the person operationally responsible before departing. Plans will include routes, times in and out. Escape routes shall be identified. Students shall be briefed on emergency procedures prior to departure.

Weather

A. Weather shall be treated with respect and frequent evaluations made or obtained and acted upon. Particular care will be taken to ensure the adequacy and appropriateness of clothing and equipment.

B. Specific instructions will be given each student in self-protection against weather hazards. These instructions will include preventative actions to avoid emergencies as well as procedures to be followed in case of an emergency.

These will include:

1. Clothing appropriate to expected weather conditions.

2. Types of shelters available in a particular area, or those that can be erected by the students appropriate to weather expected.

3. Survival techniques including those for use in case of:

a) Heat and cold related problems
b) Serious shortage of drinking water

4. Travel techniques for severe weather conditions.

5. How to build a fire under varied and adverse conditions.

6. Diet appropriate to weather and climatic conditions.

NOBS SAFETY PROCEDURES

These document the established and traditional safety rules for a particular activity. Other safe ways of doing various activities may exist and discussion of these with the Chief Instructor or Program Director may be valuable. However, NOBS Safety Procedures must be used, unless changes are authorized by the School Safety Committee.

The established NOBS safety procedures appear at the beginning of each section of course curriculum.

V

COURSE CURRICULUM

A curriculum for a Standard Course is outlined below. The individual topics from the curriculum are elaborated in the following pages based upon this format:

1) PURPOSE for the particular activity
2) NOBS SAFETY PROCEDURES where appropriate
3) CONSIDERATIONS in instructing this activity
4) SYLLABUS of the minimum amount of instruction when dealing with this topic.

Remember that the syllabus is a minimum to which you will add as appropriate. You may wish to choose and adopt another method of presentation than the one described here.

Standard Course Curriculum

DURING THE FIRST WEEK OF THE COURSE A STUDENT MUST BE PRESENTED WITH:

*A statement from the Chief Instructor outlining the course; the purpose of Outward Bound and the expectation that students refrain from the use of tobacco, alcohol and drugs.

*Instruction covering the following topics: page

-Care and use of clothing and equipment 27

-Care of feet 33

-Water safety and swimming 36

-Conditioning 37

-Backcountry code 38

-Minimum impact 39

-Campcraft 42

-Fire 42

-Sanitation 44

-Food planning and preparation 48

-Accident and emergency evacuation management 51

-Search and rescue 58

-Axe and knife use 68

-Initiatives and ropes course 70

-First aid 74

-Map and compass navigation 101

*An interview with the patrol Instructor

*Journal keeping

*Training and assessment in group effectiveness, teamwork and leadership, discussions, briefings and debriefings, etc.

IN THE LATTER PART OF THE COURSE, STUDENTS WILL BE INVOLVED IN THE FOLLOWING EXPERIENCES, DEPENDING ON ENVIRONMENTAL CONDITIONS, UNDER THE SUPERVISION OF THE INSTRUCTOR:

*Snow travel	113
*Rock climbing, rappelling, and litter lower	118
*Major peak climbs (two or more)	125
*A service project of approximately one day's duration	127
*An interview with the patrol Instructor	135
*A final expedition of up to four days	129
*A marathon	133
*Course ending and evaluation	134

THE COURSE MAY ALSO INCLUDE, AS APPROPRIATE:

*Group readings	135
*Bivouac	
*Mini solos	
*Tyrolean traverse	140
*River crossing	138
*Fire watch	
*Night hike	
*Bushwack	
*Orienteering course	
*Quiet walk	135
*Sauna	140
*Natural history and ecology	

Clothing & Equipment

PURPOSE - To ensure that students understand the care, use and effectiveness of all clothing and equipment and are aware of their responsibility to themselves and the group in case of loss or damage.

Instructors must check equipment and clothing prior to student use and ensure adequacy.

SYLLABUS - Clothing

1) Students have been instructed to bring the following items. Ensure that they are of adequate quality and if not replace them. Be sure they take them on the course.

-One pair mountain boots
-One pair heavy-duty, loose fitting wool pants (with belt)
-One warm wool shirt
-One warm wool sweater
-At least two pair sweat socks (may be part wool)
-One pair wool mittens or wool gloves
-One work or flannel long-sleeved shirt or cotton turtle neck
-One lightweight windbreaker (e.g., nylon shell or windshirt)
-At least two pair heavy wool socks
-One pair gym shorts or walking shorts
-One pair sneakers
-Two t-shirts or undershirts
-One sunhat or cap

-One small towel or diaper
-Two handkerchiefs or bandanas
-One toilet kit containing: toothbrush and paste and soap
-Underwear
-A pair of DARK sunglasses or glacier goggles
-Sunburn preventative cream
-Chapstick or sunstick
-Mosquito repellent (G.I. or Cutters, but not in aerosol cans)
-Flashlight, with spare batteries
-Good pocket knife with can opener
-Stationery, stamped envelopes and pen

2) Go over the following:

*The student's responsibility for damage

*The importance of wool, check to make sure that the students' clothing is wool.

*Boots are the single most important items that students bring. The person meeting the students at the staging area should check the adequacy of everyone's boots and buy suitable replacements if necessary, before permitting students to leave for the course area. Watch for inadequately broken-in or poorly-fitting boots. Make sure boots are water-proofed before they get wet. Leather is like skin, it can't take much heat. Teach drying techniques. Mention the limitations of Vibram soles on wet rock and hard snow. It is especially important early in the course to make foot and boot checks. Try hammering, stretching, or neatsfoot oil to eliminate pressure points which cause blisters.

*Use and care of clothing - Clothing provides protection from cold, wind, rain and sun. Teach the layer system for temperature control. Keep spare clothing dry inside a poly bag or a stuff bag. Dry out small, wet items on the stomach at night if the weather is bad during the day. Teach the importance of head covering -- we lose up to 75 percent of our body heat through the uncovered neck and head. Teach protection from sunburn and snowblindness.

Equipment

*Students will be issued the following personal equipment:

-map (F.S.)
-cap, wool
-candle
-carabiner, locking
-carabiner, locking or non-locking
-compass
-cup
-gaiters,
-handbook
-hard hat
-Helly Hansen
-ice axe with tip protection
-match case
-mosquito netting (as needed)
-notebook
-pack, frame and bag
-ground cloth, 4' x 7'
-pencil
-plastic bags - 1 (20 x 30) 1 (24 x 38)
-prussik, 10 feet, 7 mm
-rain chaps
-solo tarp with cords (issued at resupply)
-sleeping bag, Polarguard and stuff bag
-sleeping bag liner
-sleeping pad
-sling, web - 18 feet
-stuff bag, personal
-spoon
-water bottle
-whistle

*Group equipment

- peanut butter containers
- 1 spice kit
- margarine containers
- axe, with blade cover
- billies, 2 sets of 2 nesting pots
- cord, nylon - 100 feet
- 1 descender, figure 8
- 2 first aid kits
- 5 fuel bottles (pour spouts on 2)
- maps, 3 sets in plastic bags
- 1 frypan
- 3 ropes (150 feet, 7/16 inch)
- 3 rope stuff sacks
- repair kit
- saw and spare blade
- 1 shovel
- Sno-seal
- 2 stoves, Optimus 111-B
- soap, in jar (biodegradable)
- 3 tarps, 10' x 12' (with 6' cords and staff bag)
- utensils, spoon and spatula

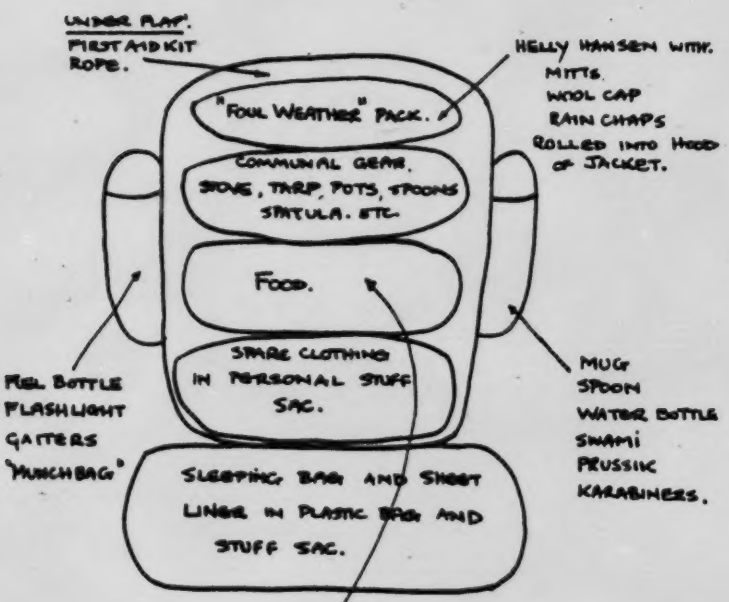
*Discuss the function of each item of equipment as it is issued.

*Go over the following:

- Packs - packing efficiently; adjustment of waist and shoulder straps; lifting; weight distribution.
- Sleeping bags - insulation below the bag; fluffing the bag; sleep beside another warm body in cold weather; drying and airing; keeping clean; flammability of nylon (avoid sparks); care of zippers; stuffing; bags zip together for cold conditions; function of draw cord; liner for cleanliness.
- Foulweather gear - when to wear windproof or waterproof; body climate control; clothing adjustments.

- Axes and knives - don't use without training.
- Shovels - fire suppression; sanitation; snow shelter construction.
- Ropes, slings webbing - coiling; carrying; use of staff sacks; care not to stand on ropes; care to keep out of mud and water.
- Hard hat - adjusting to fit; protection against top and lateral impacts. Caution about lateral crushing of hard hat which cracks fiberglass. Do not sit on helmet when stored in pack.
- Gaiters - demonstrate how to put on.
- Snow-seal - goes on better melted; care of leather.
- Ice ace - not a crowbar or hatchet.
- Maps - keep dry and accessible; fold neatly so name of map is visible; don't carry in pocket; keep in plastic bag.
- Tarps - don't sleep or walk on them; store in stuff sack; don't put rocks on edges.
- Fuel bottles - need gaskets; carry upright; pour spouts on half of bottles.

LOAD PACKING.



OUTSIDE FRONT POCKETS.

MAP + COMPASS.
JOURNAL + PENCIL.
HANDBOOK.
CAMERA.
MOSQUITO JUICE.
GLACIER CREAM.
SUNGLASSES.

ICE AXE, CHOPPING AXE, SAW, SHOVELS — STRAPPED ON OUTSIDE

HELMETS - STRAPPED ON OUTSIDE OR STOWED IN MAIN PACK.

ENSOLITE - UNDER FLAP OR STRAPPED ON WITH SLEEPING BAG.

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Care of Feet

BLISTERS

Blisters make for a needlessly miserable experience and have led to serious infections requiring hospitalization and surgery. Calvin Coolidge's son died from blisters. They can be prevented with care and Instructor supervision.

Cause - Caused by a combination of pressure and rubbing. Factors which promote blister formation are:

1) Pressure point in boot (stretch or hammer out)
2) Wrinkles in socks, telfa pad, or moleskin cause pressure points
3) Wet socks increase rubbing
4) Loose fit around the heel increases rubbing (use padding)
5) Lifting heel while cross-country skiing.

It takes as little as three minutes for a full-blown blister to develop.

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DIAGRAM ①.

Prevention -

1) Have good boots that fit well
2) Cood fitting socks. A lightweight sock should be worn next to the foot, and a heavier one over. Run your hands over the toes and heels to feel for wrinkles. Socks next to the foot should be wool if at all possible.
3) Change into clean socks daily
4) Wash feet regularly
5) Wear gaiters only when necessary. They cause overheating - damp socks - soften feet - start to rub.
6) Tape a telfa pad to your feet before you start out if you think you may get blisters.
7) Tincture of Benzoin can help toughen skin.
8) Foot checks (see next page)

Treatment -

1) Tape over hot spots.
2) If the blister is full of fluid, then clean the area thoroughly and puncture the blister with a sterile needle. After draining the blister cover with a sterile dressing.
3) A raw area or very painful blister should have a moleskin doughnut to protect it. Cover the area with sterile dressing right over the top of doughnut.
4) Expose to sun and air when possible to promote healing.

Foot Checks -

1) After the first 30 minutes of travel, a foot check should take place.
2) Use the first blister problem to instruct correct care and aid.
3) If necessary the instructor should supervise and ensure adequate student foot care.
4) Follow-up of people who are not taking care of themselves should be done by staff.

Foot Hygiene -

1) Wash feet and socks regularly. If unable to wash socks, change them around frequently.
2) A thorough drying of feet, especially between toes is essential.
3) Keep toenails short.
4) Avoid walking around in bare feet. Small cuts can easily become infected.

Reference: "Blisters," by Robert Ross, M.D., Wilderness Camping, Volume 5, Number 3, 1975.

Water Safety & Swimming

CONSIDERATIONS - Run and dip and saunas constitute the only planned uses of water during the course and in neither activity is swimming necessary. Potential exists for swimming during the course at a variety of lakes and pools and constitutes a potential life threatening hazard. Swimming should be discouraged as a course activity to reduce exposure to risk and should be very tightly supervised.

NOBS medical forms inquire about student swimming abilities and this information should be helpful in identifying potential weak and strong swimmers.

NOBS SAFETY PROCEDURES:

1. No swimming in water above chest deep.

2. The instructor must reconnoiter the intended swimming area and must designate the area where students may swim. Swimming area must have safe entry and a safe exit and must not be adjacent to fast moving water.

3. An inquiry must be made of all students to identify strong, weak and non-swimmers.

4. An instructor will supervise all swimming activities.

5. Specifically: no solo swimming
no swimming on final expedition
no swimming between sunset & sunrise

6. A buddy system must be employed so that each student is observed by someone else while swimming.

7. Students must remove glasses, contacts, false teeth, toupee, etc. before entering water.

8. No jumping or diving.

9. A safety briefing must precede any water activities and must cover:

NOBS safety procedures (above)
Permitted area for swimming

10. The instructor must develop a rescue plan.

Conditioning

RUN AND DIP

PURPOSE - This is a traditional, vigorous start to the Outward Bound day and an excellent conditioning exercise. A run and dip can be a dramatic start to the whole course.

NOBS SAFETY PROCEDURE - Follow all of the above water safety procedures.

Inspect river bottom for dangerous debris, e.g., sharp rocks, sticks, broken glass.

Wear running shoes to prevent abrasion and puncture wounds while dipping.

EXERCISES

PURPOSE - Daily exercises are useful particularly at the start of the course to assess physical condition of group. Stretching exercises can serve to focus the group before the day's activities and give the day an energetic start. Circuit training exercises can also be used, e.g., sit-ups, pull-ups, push-ups, etc., on a regular basis to build strength and the improvement in performance recorded throughout the course.

Backcountry Code

CONSIDERATIONS - The Backcountry Code summarizes our operating practices which were designed to minimize user impact in wilderness. Discuss this with students (a copy is printed in each student handbook), and ensure your patrol follows the practices outlined in the Code.

Introduction

One of the main instructional goals at Outward Bound is to educate students to minimize the impact made by use of the backcountry.

Impact from any backcountry visitor takes two forms:
1) the physical impact on the land
2) the impact on the experience of other backcountry visitors.

These notes summarize some current operating practices which seek to minimize both types of impact.

MINIMUM IMPACT ON OTHER USERS OF BACKCOUNTRY

Most backcountry users expect to experience solitude during their visit. An encounter with an Outward Bound group containing 10-12 people traveling together is not necessarily an agreeable part of the other users' experience. Large parties seem to adversely impact other users' satisfaction more than small parties. Encounters on trails as opposed to encounters near campsites are preferred. Encounters near roadheads are expected and less of an adverse impact than encournters in remote parts of the backcountry (Reference 1, page 45).

The following policies and practices are used by Outward Bound:

- -Plan routes to avoid heavily traveled trails and high use areas.
- -Avoid having two groups traveling in close proximity. Travel and camp a mile or more apart.
- -Use separate trails when dispersing from a roadhead, if possible. Have people spaced a few yards apart while hiking to avoid appearance of being a military group on maneuvers.
- -Ensure group state of dress or cleanliness won't offend other users.
- -Be courteous when meeting other users. Allow them room to pass on trail. A warm greeting will improve the encounter.

-If the other user appears interested, explain the purpose of the Outward Bound group's visit.

-Avoid popular peak climbs on weekends.

-Move off summits if other users appear.

-Avoid excessive noise which may be heard many miles away especially above timberline and across lakes.

-Give other users' campsites a wide clearance when traveling.

-Camp and take lunch stops out of sight of trails.

-Avoid camping at roadheads when picking up food and equipment resupplies. Minimize your time at the roadhead.

-Keep a tidy campsite. Leave no equipment, food or litter strewn about.

-If you do camp in proximity to other parties, give them as much privacy as possible. Use terrain features (e.g., knolls and vegetation) for screening.

-Wear swimsuit while swimming; nudity will offend many other users.

MINIMUM PHYSICAL IMPACT ON BACKCOUNTRY

Outward Bound's aim is to get each student to gain an understanding of the importance of wild areas as a spiritual retreat for man and of the fragility of these environments. We expect each student to develop a personal commitment to minimizing the physical impact of their visit to the backcountry. (See References 2 & 3.)

Travel Procedures -

-In the spring, travel across snow rather than tundra as much as possible. Soil and vegetation are easily damaged during the thaw.

-Use existing trails when available, do not cause erosion by cutting switchbacks.

-If a section of a trail is muddy, consider making a drainage improvement rather than by-passing the muddy section and creating a new trail.

-When crossing trailless meadows or tundra areas, consider fanning out rather than hiking in single file. A group of 10 in line can crush fragile plants and create channels for erosion.

-When bushwhacking or traveling cross-country, leave no markers, cairns or blazes. Allow others the same pleasure in navigating trailless country that you received.

-Travel quietly in the backcountry; avoid clanging pots and cups hanging from packs. The noise will lessen the chances of seeing wildlife and will also disturb other users.

-Take no physical souvenirs from the backcountry; flowers, rocks, bones, etc. Leave these for others to enjoy also.

-Animals and birds should be observed from a distance. Respect their need for undisturbed territory.

-Dogs or other pets must not accompany groups. They may disturb wildlife and their noise may offend other users.

-Pick up litter you find along the trail. Keep one pocket of your pants just for trash.

-Consider clearing brush from an evergrown trail or repairing deteriorating tread. If extensive, note for a future service project.

-Remove blowdowns and rocks from trails if feasible. If extensive, note for a future service project.

-When passing horses on a trail, step off the trail and stand quietly until animals have passed. Horses do have the right of way.

Campsite Selection -

-If camping in a heavily used area use an existing campsite, if available, and it seems no other users will require it. This will concentrate the areas of unavoidable human impact.

-Avoid camping on edges of lakes, banks of streams and in meadows. The vegetation in these locations is more susceptible to destruction than forest duff.

-Avoid trenching around tarps to improve water drainage. Trenches are unsightly and not needed if camp is properly located.

Fires -

-Use an existing fire circle if it exists.

-Make only small "squaw" fires which people can gather around rather than "white-man" fires.

-Use a stove for cooking all meals and keep fire as a luxury for evening discussions, for unusually wet and cold conditions or for teaching the art of firebuilding.

-Take only dead and fallen wood for fire making. Don't strip dead limbs off living trees, tear down snags, etc. These are an aesthetic part of the scenery.

-Avoid fires close to timberline or in areas of heavy use where wood supply is scarce.

-To build a fire in a new area:

1. Choose a spot away from overhanging branches, tree roots and reflector rocks.
2. Remove the upper layers of organic soil (containing roots, insects, etc.) and save the soil for covering up the fire scar. Use EXTREME CAUTION in areas of heavy duff accumulation as fires can smoulder for weeks, travel underground along roots and be fanned into a major forest fire by the wind. Make sure you reach mineral soil with the firepit and make the hole considerably larger than your intended fire.
3. Ensure fire pit is cold to touch before leaving. This may require considerable drowning with water and digging out in a heavy duff area. Remove any foil accidentally placed in fire then either bury or disperse the ashes.
4. Replace organic soil and sod. Scatter any fuel you have collected but not used so that area does not attract other campers.
5. Rocks should NOT be used to ring fire. Turn any accidentally scarred rocks black side down or disperse.
6. Removal of firescars left by other parties should be done only at infrequently used campsites where a new firescar is unlikely to reappear. Clean foil out of ashes, disperse ashes and turn in top organic layer of soil and make disturbed area look as natural as possible.

Latrines -

-For individual stops along the trail, a person can make a small hole, digging down into the humus layer.

-For overnight camps, locate the latrine away from water at least 300 feet from any stream or marshy area.

-Dig a trench large enough for the needs of the group and ensure each member of the group knows the location of the latrine.

-Toilet paper and sanitary napkins decompose more slowly than human wastes and should be burned either in the latrine or the fire. When possible use natural substitutes for toilet paper (e.g., sticks, cones, leaves or snow).

-Keep the shovel by the latrine and spread a layer of dirt after each use.

-Fill in latrine before leaving and cover with rock or log to prevent animals digging up area. Organic garbage (e.g., surplus oatmeal) may be buried in the latrine.

Washing -

-Keep soap out of streams, ponds and lakes. Even "biodegradable" soap can pollute drinking water.

-Use a "biodegradable" soap for all washing as it breaks down faster than other types.

-Wash dishes, clothes and self away from water supply. Pour soapy water on soil well away from bank. Vegetated soil will filter the soapy water more slowly than sandy soil and allow more time for soap to break down.

-Keep use of soap to a minimum and do not dispose of soapy water at all in a tundra area.

Trash -

-Carry out all non-burnable and non-organic trash.

-Burn only paper or cardboard trash. Carry out plastic.

-Dispose of food scraps and other organic trash in the latrine.

-Be careful not to get food scraps in streams or lakes where they will be very slow to break down.

-Just before leaving, make a careful check of camp area for trash.

References: Visitor Perception of Wilderness Recreation Carrying Capacity. George H. Stankey, U.S. D.A. Forest Service, Research Paper, INT-142, 1973.

Wilderness Impact Study Report. John Stanley, Sierra Club Outing Committee, 1972.

Colorado Outward Bound School. Backcountry Ethic. Janie Mallory, May, 1976.

HYGIENE

The teaching of effective wilderness hygiene is a crucial aspect of our job. Too often students are not acquainted with basic procedures of wilderness hygiene; the result of poor hygiene is trouble - often sickness - especially gastrointestinal illness. Instruction covering proper hygienic practices should begin the first day of the course. The following procedures must be instituted:

-Students must not share water bottles.
-Hands must be carefully and thoroughly washed after a bowel movement. Cooks must wash their hands before cooking.

-Pots, cups and utensils should be promptly cleaned after each meal.
-Group utensils, not personal spoons, should be used for cooking.
-Spoons and cups should be dipped in boiling water prior to meals (whenever possible).

Types of Water Born Pathogens

Protozoa: simple one-celled animals.

A particular flagellate (tailed) protozoan known as "giardia" (actually Giardia Lamblia) is the most troublesome organism in mountain waters; it is endemic in the United States and appears to be carried into remote drainages by animals (beaver, cattle, dogs and cats - but not deer or elk) and people. Symptoms of giardiasis are diarrhea, sulfurous ("rotten egg" belches and flatulence, malaise, and weight loss; these symptoms do not appear until 1-4 weeks after ingestion, and the disease may be debilitating, through not severe. Because of the time delay and because giardia is not well known throughout the country, students should be warned to suspect giardia and to notify the Northwest Outward Bound School office of any persistent post-course diarrhea. Giardiasis responds well to atabrine or metranidizol ("flagyl").

Amoeba are also protozoa (not flagellate). The life of both amoeba and giardia includes a cyst stage which, although somewhat resistant, succombs to chlorination, iodination, filtration, or boiling for 20 minutes. Amebiasis is more severe than giardiasis (typically causing fever and bloody stools) but is quite uncommon in the Northwest.

Bacteria: one celled animals with simple cell structure (E.G., salmonella, shigella, E. coli).

The presence of diarrhea-causing bacteria in high mountain water is due almost entirely to human waste: the bacteria in animal stools are usually not human pathogens. Contamination can be removed as for protozoa (chlorination, iodination, filtration, or boiling) and bacterial disease responds to antibiotics.

Viruses: incomplete organism that must live on a larger cell.

Water contamination by viruses results only from human wastes, and water borne viral infections are not common in the Northwest (hepatitis is an example). Viral vaccination may offer some protection.

Parasitic worms: flukes, roundworms, etc.

These are found in livestock and in many game animals, but cannot infect people, hence are of no concern as a water contaminant on Outward Bound courses.

WATER TREATMENT

There are two practical field methods of treating water.

Boiling water for twenty minutes will destroy most infectious organisms. Giardia cysts are destroyed by raising the temperature to 60°C.

Iodination is the alternate technique for treating water. NOBS is using 2% "tincture of iodine". Use 4-6 drops per quart and wait 30 minutes before drinking.

Shelters and Stoves

PURPOSE - Tarps and stoves are vital pieces of equipment and students need to be trained in their use.

SYLLABUS - Tarps

*Types of shelter, e.g., A-frame, lean-to, dome

-site selection, orientation to wind, drainage, widowmakers and environmental considerations
-pick solid anchors for shelters
-tautline hitch and truckers hitch
-store and carry in stuff sack

*Make sure everyone can erect an effective shelter.

Stoves

1) Ensure students understand principle upon which stove operates, i.e., liquid fuel vaporized by burner head. Vaporized fuel and air mixed to burn.

2) Parts of a stove: tank for white gas, reflecting shield, pump, pressure relief valve, fuel cup for preheating, burner head, nipple with cleaning needle, burner plate.

3) Lighting: filling; caution about flammability of white gas (at least 10 yards from naked flame); set up in wind-free, level place; pump; preheat; clean nipple; light.

4) Make sure everyone demonstrates at an early stage of the course that they can operate a stove.

5) Safety: no cooking in tents except in emergency; describe procedure for stove flare-up/imminent explosion.

6) Cover maintenance and cleaning.

Reference: Off Belay magazine, Stoves reprint.

Fire Building & Suppression

1) FIRE SAFETY

a) Don't build fire on duff - even wet duff.
b) Watch for overhanging tree branches.
c) Keep shovel and water handy.
d) Don't leave the fire unattended.
c) Zero impact - don't use rock ring around fire.

2) FUEL

a) tinder

1) tiny twigs - find these at base of large trees.
2) pitch sticks made into shavings or fuzz sticks.
3) dry spanish moss.
4) if all else fails: gasoline.

b) squaw wood: small to medium size dry wood.

c) larger wood used in hot fire - pick up deadfall or cut dead trees with axe/saw.

3) STARTING THE FIRE - a box fire

a) Clear the forest lichen and duff down to mineral soil. Get all wood ready.

b) Box structure - wood walls and tinder roof. Use pitch wood if tinder and squaw is wet.

c) Light on windward side of box. Hold the match - don't just set it on the ground.

d) Add sqaw wood carefully and blow gently.

4) SUPPRESSION

Lots of water and stir up coals. Don't use snow; it insulates heat in. Dig up coals and feel temperature. Then bury them in mineral soil.

Food

PURPOSE - To enable students to prepare balanced, edible meals for themselves.

CONSIDERATIONS -

*Some students may never have cooked for themselves and most will have limited understanding of human nutrition.

*Organizing food provides a good group situation and interaction.

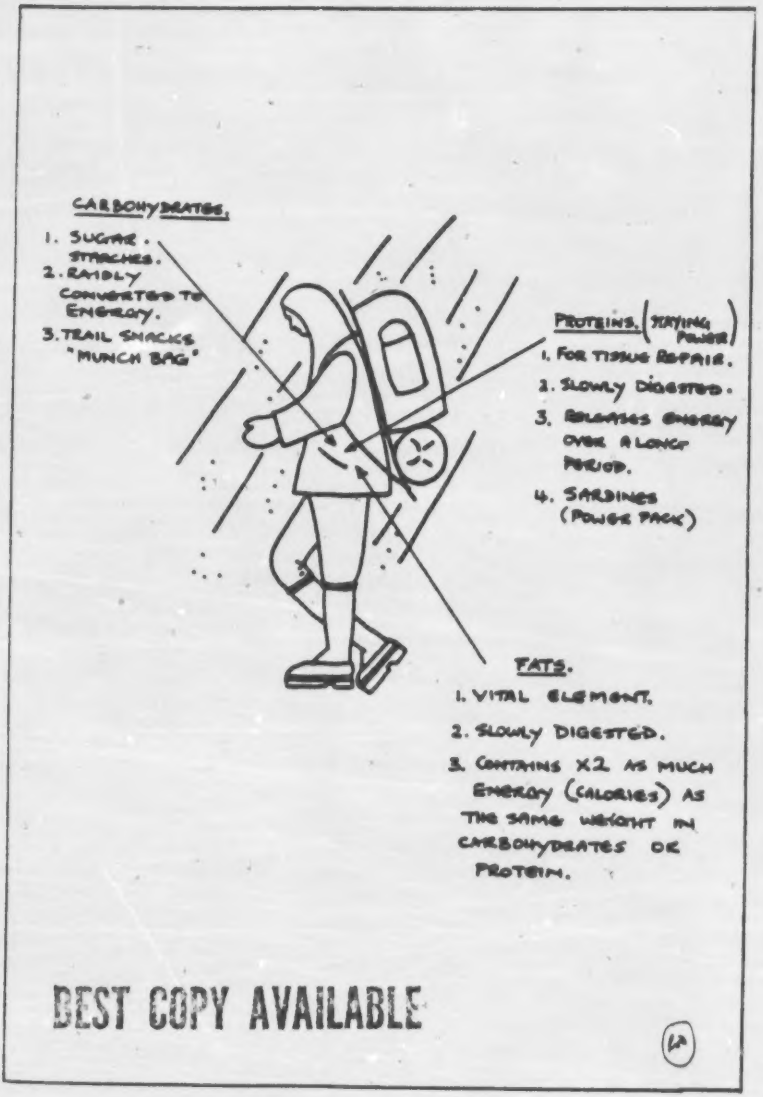
*Both morale and energy will drop if proper attention is not given to food preparation.

*It is especially important in the early part of the course to ensure that students are eating and drinking adequately.

*Some students may have allergies to certain foods and the staff member and the group will have to take account of this.

SYLLABUS -

1) Our bodies are designed to metabolize a variety of:


CARBOHYDRATES.
1. SUGAR. STARCHES.
2. RAPIDLY CONVERTED TO ENERGY.
3. TRAIL SNACKS "MUNCH BAG"
PROTEINS. (STAYING POWER)
1. FOR TISSUE REPAIR.
2. SLOWLY DIGESTED.
3. RELEASES ENERGY OVER A LONG PERIOD.
4. SARDINES (POWER PACK)
FATS.
1. VITAL ELEMENT.
2. SLOWLY DIGESTED.
3. CONTAINS X2 AS MUCH ENERGY (CALORIES) AS THE SAME WEIGHT IN CARBOHYDRATES OR PROTEIN.

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Proteins
Carbohydrates } A good balance of these is necessary.
Fats

When working in a mountain environment our requirements may be different from what is sufficient for our other routines and activities. (e.g., Eat one lump of sugar and it takes one hour for it to be worked off if one sits at an office desk. It takes 80 seconds to work off if you put on a heavy pack and start walking uphill.

2) The foods issued generally contain some quantity of all three food groups, but are usually particularly high in one. For example:

CARBOHYDRATE	PROTEIN	FAT
Oatmeal	Milk	Margarine
Sugar/Honey	Sardines	Tuna in oil
Dried fruits	Kippers	Sardines in oil
Noodles/rice	Meat	Jersey Creams
Drink mix	Tuna	Peanut butter
	Peanut butter	
	Cheese	

3) Planning for a strenuous environment:

-provide plenty of fat at breakfast and lunch -- this is the fuel to keep you going.
-add margarine and milk to breakfast cereals.
-eat sardines, jersey creams, and peanut butter for lunch
-encourage personal "munch bags" - peanuts, raisins, sunflower seeds, cashews, figs, dried apples, etc., for rapid energy.

-during day, eat little and often.

4) Fluid Intake - Many physical complaints on a course can be traced to dehydration, e.g., headache, nausea, lassitude.

-thirst alone is not an adequate indication of fluid needs.
-"urine color test". Dark, infrequent urine indicates lack of fluid.
-salts must also be replenished - salty meals.
-salt tablets with ½ a quart of water per tablet for cramps.

References: Let's Eat Right to Keep Fit by Adelle Davis
Diet for a Small Planet by Francis Moore Lappe
NOBS Food Report

Accident and Emergency Management

PURPOSE - To ensure that all students understand the basic procedures to use in case of an accident or emergency, and to build safety consciousness and an awareness of the kinds of emergency situations which may arise in the field.

NOBS SAFETY PROCEDURE - An unscheduled loss of contact for 12 hours constitutes an emergency. Search procedures will be instituted. When the period extends to 24 hours, the school spokesman in the Portland office must be notified and the sheriff may assume control of the search/rescue.

All field staff will be briefed by Chief Instructor on emergency and evacuation procedures for their course area.

CONSIDERATIONS - We are a self-sufficient group working in a wild enrironment. We have the man-power and expertise and therefore prefer self-help rather than relying upon outside rescuers. We are occasionally called on to rescue others. During the course, try

and build in students anticipation of the likely problems that could occur.

SYLLABUS - To build an awareness and to make this information more relevant, use mock rescues, search and rescue exercises and discussion of specific crisis scenarios. Two syllabus topics which must be covered are:

1) accident/emergency response
2) lost and alone

IN THE EVENT OF AN ACCIDENT OR EMERGENCY REQUIRING EVACUATION:

1) Do not panic! One responsible person approach the casualty swiftly and surely from the side or below. Not from above.
2) Give first aid, secure casualty and assess severity of the situation.
3) Ensure the safety of the rest of the group.
4) Decide what action to take, judge carefully whether to request aid for evacuation.
5) Send at least two messengers with two written messages to the nearest point where further assistance can be obtained. This may be the Chief Instructor, NOBS vehicle at roadhead, telephone to call NOBS base or office, sheriff.

Do not allow them to leave until:

-the casualty is secured safely and first aid administered.
-the rest of the group are established and the scene controlled.
-they have organized sufficient food and equipment for the journey.
-they know how to contact further assistance (there is a 24-hour answering service for NOBS office)

6) Messages should include:

-name of report writer
-time of accident
-time of report
-name of victim
-nature of accident
-nature of injuries
-exact map location of accident
-what has been done for victim and companions
-what reporter plans to do
-weather
-specific requests for equipment and personnel
-rendezvous location
-where messenger can be contacted again.

7) On the scene while awaiting help:

-shelter from elements, especially the victim
-organize landing area if helicopter is anticipated
-constant check of the victim (pulse, general state, etc.)
-eat and drink; little and often

8) If you are sure there has been a fatality. Do not disturb the body. Initially, the police must treat it as a homicide. Only the county coroner or medical officer or his agent can authorize removal of the body. The police will need to make a careful investigation of the site.

Lost and Alone

If a student becomes separated from the group, they should consider the following:

1) Your group will be looking for you. You will be found more easily if you are on a trail or some prominent feature.

2) Try to return to the last point where you were all together or to some trail or road you are sure you can reach.

3) If you seem to be getting more lost:

-stop moving
-try not to panic
-obtain shelter where you will be warm and dry
-wait to be found

4) Self-help

-assist search efforts by making smoky fire which will be visible from the air or vantage point
-blow your whistle -- three blasts - pause -- repeat, is a distress signal.

Helicopter Evacuation -

This is not part of the training syllabus but a resource for you as an Instructor who may be called upon to handle this type of evacuation.

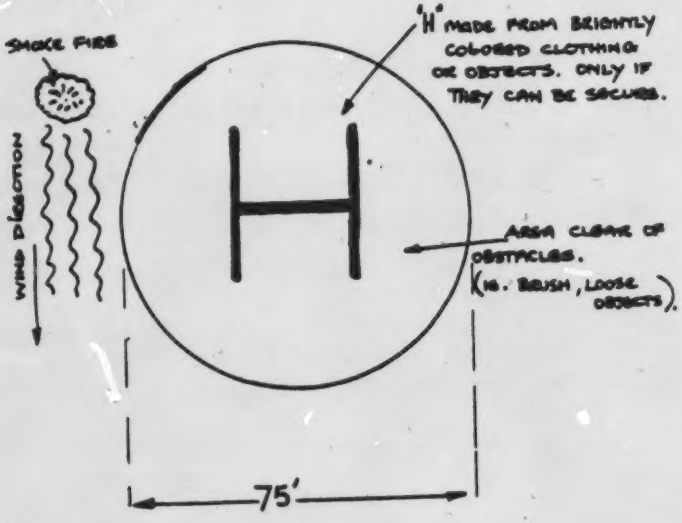
1) Considerations

*Weather - Turbulance caused by mountain weather can make flying extremely dangerous.
*Continual visual contact with the ground is essential. Poor weather and low clouds may make it impossible for the helicopter to operate.
*Helicopters can maneuver safely in winds up to 35 miles per hour; a wind of 10 miles per hour is better than still air.

Darkness - At night pilots find it difficult to hold a hover for any length of time.
*Pilot will experience difficulty in judging distance between blades and trees or crags, etc., if trying to get in close.

DIAGRAM ①

DIAGRAM ②


SMOKE FIRE
WIND DIRECTION
'H' MADE FROM BRIGHTLY COLORED CLOTHING OR OBJECTS. ONLY IF THEY CAN BE SECURED.
AREA CLEAR OF OBSTACLES. (IE. BRUSH, LOOSE OBJECTS).
75'

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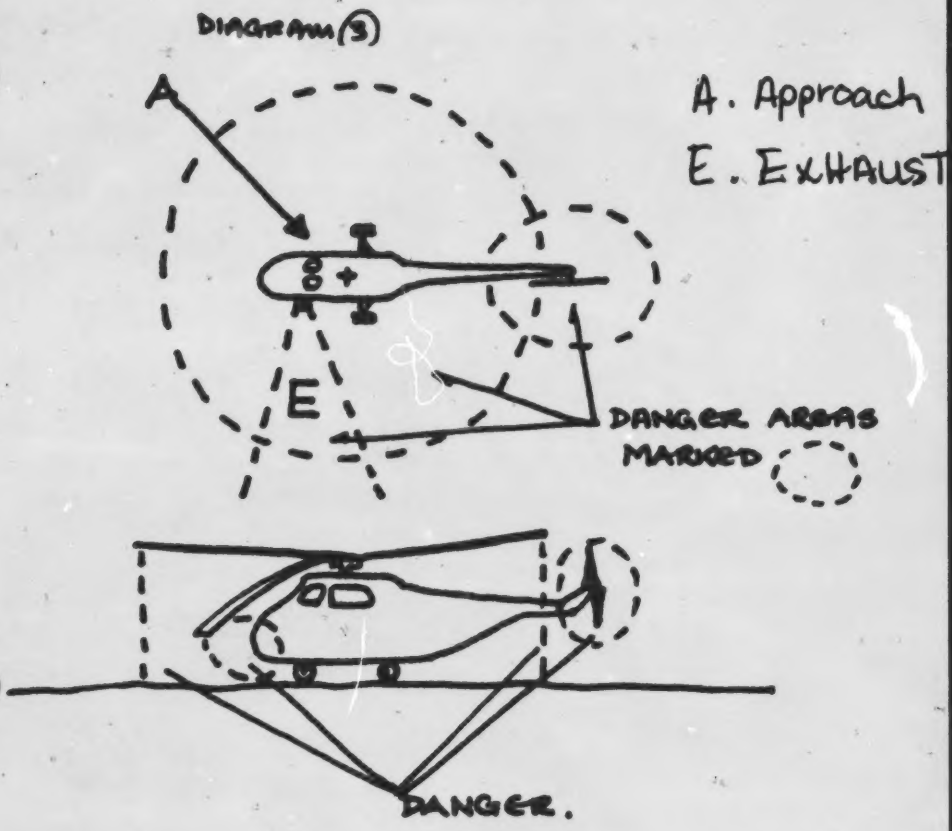


Landing Area - need not be level.

*Pilots prefer flying off the top or side of a ridge crest or lower edge of a hanging valley.

*From a flat landing spot (in a valley) he may only be able to climb a few feet before losing his cushion and having to fly forward.

*If he has to land near sloping ground, the slope must not exceed a rise of more than 12½' in 30' (See Diagram 1).

*Mark landing zone with bright colored and well secured material. Remove anything which might be sucked up into rotor.

*Choose an area with a clear exit into the wind.

*Smoke fire on the edge of landing zone, not to obstruct pilot's vision. Pilot will try to land into wind.

*Group members can stand with backs into wind with arms extended toward landing area.

Approach - Never approach helicopter until pilot signals you to do so.
*Approach with caution, keep your head down.
*Approach as in Diagram 3.
*Danger zones are rotor blades, tail blades, exhaust, air intake (See Diagram 3).
*All extra personnel should stay 75 feet away from helicopter.

Casualty - Secure victim and all gear that is going out.
*Make sure there are no loose ropes, straps, etc., dangling from the litter.
*Shield his face and eyes to protect him from flying debris, but be sure not to impair respiration.

Reference: International Mountain Rescue Handbook by H. MacInnes.

Search and Rescue

PURPOSE - Every patrol must be prepared to perform the service of a search and rescue unit in the course area, both for Outward Bound participants and other backcountry users.

NOBS SAFETY PROCEDURE - All students must take part in a mock search.
-All students must be aware of procedures to be used in case of actual search. (Reference: Student Handbook)
-Students and staff must wear hard hats during a technical lowering session.

SYLLABUS -

1) A mock search.
2) Search techniques
3) Procedures in the event of an actual search
4) Rescue techniques (two sessions)
    a) improvised carry
    b) technical lower session

Mock Search -

Mock searches can be quite boring and frustrating for students. Variety is the key!

1) It may be appropriate to approach students with a seemingly real situation to get their "jungle juice" pumping.

2) Choose a variety of ground types for the search area to maintain their concentration, i.e., thick bush, tree areas, steep talus, marshy, heavily undulating.

3) Disperse several articles around the search area; at various places along the search line to create positive finds.

4) Make the find interesting, i.e., human needing first aid and carry out - a pack containing plenty of water bottles and a good lunch.

Search Techniques -

The conduct and type of search must be related to the information available regarding the missing party; type of country involved, the trained and untrained man-power available, weather conditions, etc.

1) Hasty Search:

-a rapid search covering the most likely places a person who is lost might go.
-this search can be done over a substantial area with relatively few personnel.
-watch for tracks and other signs of victim.
-try and establish voice contact.

2) General Search:

-a more detailed search covered by a line of searchers.
-they remain within calling distance of one another.
-they are briefed on the boundaries of the area and patterns to be used.

3) Fine Search:

-similar to general search except that searchers are much closer together to insure that the missing person could not be missed even if he is unconscious.

4) Line Search Techniques:

-good communication along the line is necessary.

-a controller in the middle of the search line on fine search.
-a controller in the middle and one at each end on a general search.
-isolated areas of thick bush, large boulders, waterfalls, caves, crevasses must be searched diligently. The line must stop while this is done.
-flags or other bright colored objects may have to be used to establish boundaries of search area if a grid is to be used.
-don't just look ahead -- look behind and to the sides.

Procedures in the event of an actual search:

1) Gather all information:

-name	-clothing
-age	-equipment and food
-description	-intended plans
-experience	-where last seen

2) Select search leader: senior or most experienced person.

3) Formulate search plan on the basis of resources and information.

4) Notify Chief Instructor and NOBS office if loss of contact extends to 24 hours. Read the NOBS Emergency Procedures Guide which covers publicity aspects of search and other emergency situations.

5) Brief the search party. This is a very important part of the search procedure. Remind them:

-Distress Signal -- three of anything, pause -- repeat. The answer is two of anything.

6) Search parties should carry an "emergency pack" containing at least:

-sleeping bag
-ensolite
-tarp
-food, stove and drink
-first aid kit
-rope
-map and compass
-flashlight

7) Party members should be:

-well fed before starting search
-take food and drink for the party
-have warm clothing and "foul-weather" gear

-carry compass, whistle, flashlight
-helmets should be worn if searching steep, loose, rocky ground
-carry other necessary equipment to move safely over technical ground, i.e., ice axes.

Rescue Techniques (2 sessions)

1) IMPROVISED LITTERS AND OTHER CARRIES

-At the outset, it should be remembered that improvised "carries" and "litters" are:

a) exhausting
b) used to move an injured person to a more sheltered situation
c) used to move persons with MINOR injuries

-Self-help is much faster than outside, organized help if conditions, injury and time allow.

-Suggested types of carries to be covered and demonstrated, pointing out each method's limitations to group.

a) 2-, 3-, and 4-hand carries
b) piggy-back ride

c) "fireman's" lift
d) 2-man split-rope carry
e) 1-man split-rope carry
f) 2-man pack-frame (or crossed-sling) and pole carry
g) pack-frame carry
h) sedan litter carry (poles and clothing)

} See Diagram 2

-Improvised litters - very effective litters can be made using natural materials and lashing with cord or using clothing. Plenty of scope for ideas.

-Cover <u>rope litters</u> - limitations

a) can be very uncomfortable
b) hard to assess stretch in rope while building
c) hard to adjust
d) very flexible for a prone person

Improvements -

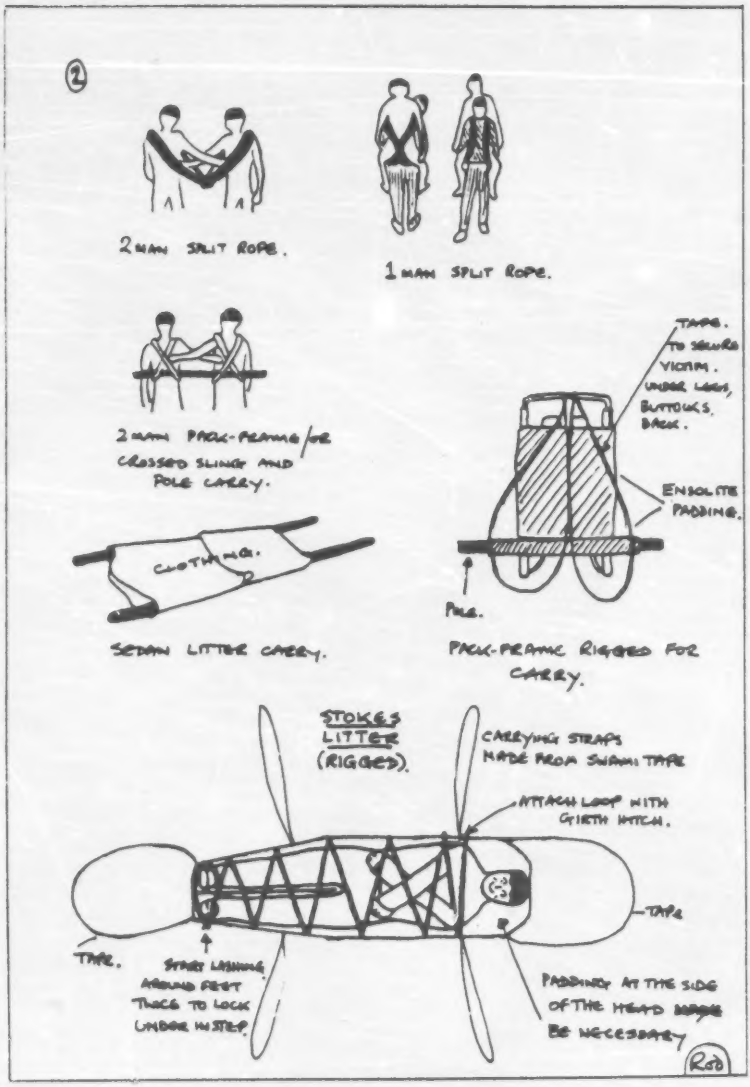
a) padding
b) carrying straps
c) built-in poles

-Use of Stokes litter for carrying

a) tie-in system (See Diagram 2)
b) carrying strap system
c) adequate padding
d) lifting and depositing procedure
e) carrying techniques
f) impress teamwork importance

-Tips for this session -

a) don't just demonstrate; ask group for ideas and build upon them
b) Incorporating a short race into litter building creates industrious activity!
c) Incorporate a carry into the mock emergency situation.


2
2 MAN SPLIT ROPE.
1 MAN SPLIT ROPE.
2 MAN PACK-FRAME/OR CROSSED SLING AND POLE CARRY.
TAPE. TO SECURE VICTIM. UNDER LEGS, BUTTOCKS, BACK.
ENSOLITE PADDING.
POLE.
CLOTHING.
SEDAN LITTER CARRY.
PACK-FRAME RIGGED FOR CARRY.
STOKES LITTER (RIGGED).
CARRYING STRAPS MADE FROM SWAMI TAPE
ATTACH LOOP WITH GIRTH HITCH.
TAPE
TAPE.
STRAP LASHING AROUND FEET THUS TO LOCK UNDER INSTEP.
PADDING AT THE SIDE OF THE HEAD MAY BE NECESSARY

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-Mock rescue - At least one simulated rescue situation requiring initiative and teamwork should be carried out. It is an excellent vehicle for discussion of crisis management and emergency preparedness.

2) TECHNICAL LOWERS - This activity provides an opportunity for a concentrated group effort.
   a) organize and demonstrate each different type of lowering technique, then,
   b) delegate organization of subsequent lowers to a student until all have participated.
   c) It is important that the group has full responsibility for organizing their lowers with a final check from the Instructor.

FIRST - Pose the problem of lowering ONE PERSON over the edge of the outcrop -- cover:

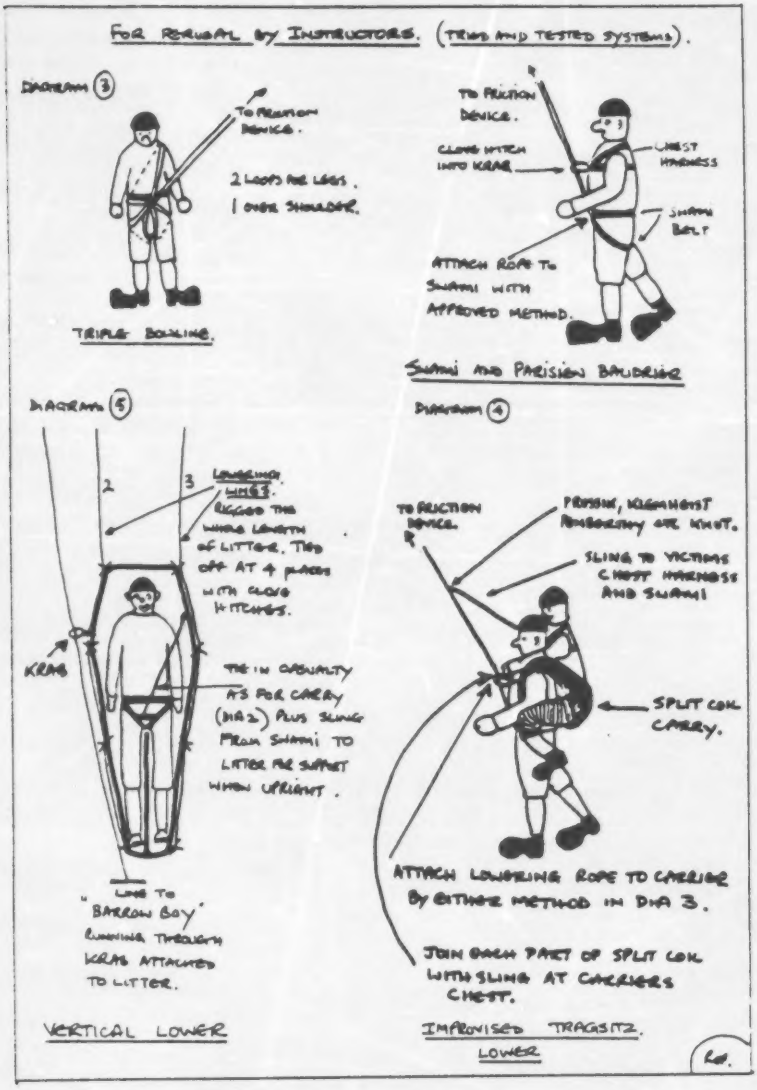
-Friction lower - and tying them off.
   a) body belay
   b) friction directly around a tree
   c) brake bar or peg and carabiner
   d) figure "8" descender
   e) Italian hitch (only with Kernmantel rope)

-Tying into lowering rope -considering hanging free, tipping upside down.
   a) triple bowline
   b) swami and Parisien Baudier (chest Harness) (See Diagram 3)

-It is possible after one controlled lower, demonstrated by Instructor, to have two lowers going at one time.

SECOND - Pose the problem of lowering a CARRIER AND CASUALTY together (Using the improvised Tragsitz method)

-Use same friction device - carrier tied in the same way.


FOR REFUSAL BY INSTRUCTORS. (TRIED AND TESTED SYSTEMS).
DIAGRAM (3)
TO FRICTION DEVICE.
2 LOOPS ARE LEGS.
1 OVER SHOULDER.
TRIPLE BOWLINE.
TO FRICTION DEVICE.
CLOVE HITCH INTO KRAB
CHEST HARNESS
SWAMI BELT
ATTACH ROPE TO SWAMI WITH APPROVED METHOD.
SWAMI AND PARISIAN BAUDRIER
DIAGRAM (4)
DIAGRAM (5)
2
3
LOWERING LINES.
RIGGED THE WHOLE LENGTH OF LITTER. TIED OFF AT 4 PLACES WITH CLOVE HITCHES.
KRAB
TIE IN CASUALTY AS FOR CARRY (DIA 2) PLUS SLING FROM SWAMI TO LITTER AS SUPPORT WHEN UPRIGHT.
LINE TO "BARROW BOY" RUNNING THROUGH KRAB ATTACHED TO LITTER.
VERTICAL LOWER
TO FRICTION DEVICE.
PRUSIK, KLEMHEIST RINGBENDY OR KNOT.
SLING TO VICTIMS CHEST HARNESS AND SWAMI
SPLIT COIL CARRY.
ATTACH LOWERING ROPE TO CARRIER BY EITHER METHOD IN DIA 3.
JOIN EACH PART OF SPLIT COIL WITH SLING AT CARRIERS CHEST.
IMPROVISED TRAGSITZ.
LOWER

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-Demonstrate tying on casualty (See Diagram 4)

-Cover several of these types of lowers so each person participates.

THIRD - Pose problem of lowering a LITTER AND CASUALTY VERTICALLY. Cover:

-Communications
  a) cliff-top caller
  b) number system

-Number of ropes - one to "barrow boy" two to litter

-Tying in:
  a) lines into litter
  b) line onto "barrow boy" as in first stage (See Diagram 5)
  c) tying in casualty

-This type of lower is quick and easy.

FOURTH - Pose the problem of lowering a LITTER HORIZONTALLY. Cover:

-Communications - as before

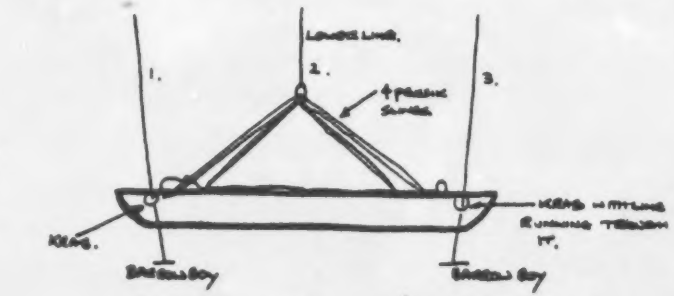
-Number of ropes -- If only three (one to litter, two to "barrow boys"

-Tying in - demonstrate rigging systems (See Diagram 6)

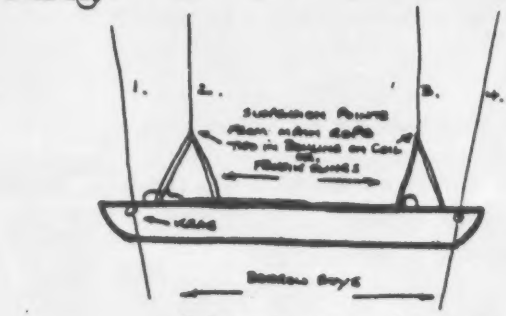
-This type of lower takes more teamwork and organization

FIFTH - If a Stokes litter is not available, it is easy to lower using a "Mariner Basket" (rope stretcher)

-Considerations: (three ropes needed)
  a) heavy wear on rope if not a sheer outcrop
  b) lots of padding (i.e., Ensolite) needed for casualty
  c) two lower lines needed (one to carrier, one to basket)



HORIZONTAL LOWER (SINGLE LINE LOWER.)



HORIZONTAL LOWER (TWO LINE LOWER)

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Axe and Knife

PURPOSE - These tools are needed at times during the course. Students should quickly learn their proper use and care.

NOBS SAFETY PROCEDURE -

- -Anyone using an axe will wear boots
- -Don't use an axe after dusk
- -Axe blade will be covered with a sheath when not in use
- -No chopping above shoulder level

CONSIDERATION -

Knives are a major cause of accidents and there is possibility for serious injury. Supervise whittling, if undertaken at all, very carefully.

SYLLABUS - Knife

Sharpening with stone; coarse and fine side. Cut away from body. Sheath knives should be carried in the pack, not on the belt.

Axe -

- -identify parts
- -handling the axe: awareness of head of axe in all aspects of use (handling, packing, chopping), be prepared to throw the axe away from you during a fall.
- -check condition of axe: blade sharp, head on tight. Makeshift fix by soaking over night in water; add wedges; pound axe on colt's foot to tighten head.
- -sharpening the axe: use of file and stone; file toward the edge; be sure file has a handle.
- -holding the axe: grip the shaft with both hands like baseball bat. This grip ensures fingers can't be cut by axe.

-splitting: solid stance; self ready? axe ready? other people ready? aim, bend the knees, use chopping block to protect blade and get wood at correct height for safe work.
-chopping: cut should be one and half times as wide as the diameter of the log; keep clear of overhead branches; when trimming, stay on the opposite side of the log from the axe.

Initiatives and Ropes Course

PURPOSE - These activities can be of tremendous assistance building self-confidence and in developing each student's awareness of decision making, leadership and obligation to other group members.

These activities permit an Instructor during the first days of the course to observe the ability, coordination and personality of the participants. They can be valuable later in the course as measures of progress in group development and as a morale booster.

NOBS SAFETY PROCEDURE - Spotting techniques should be demonstrated and practiced prior to beginning.

-Use an upper belay if a significant risk of falling exists which cannot be adequately protected by spotting.

-A staff member will check the ropes course for security and wear prior to student use.

-Hard hats will be worn on the ropes course and as appropriate in initiative exercises.

-Participants will wear boots or sneakers. Long pants are desirable for some exercises.

-Ropes course areas should be clear of rock, stumps and heavy undergrowth.

CONSIDERATIONS -

1) Initiatives - Find a convenient place to set up the problems and make use of existing materials and supports (trees, poles, etc.) wherever possible.

-Present the situation and rules through a clear briefing, then step back.

-The initiative may be presented as a timed, competetive exercise in order to increase interest and effort.

-After group has completed (or tried to complete) a problem it should be discussed by all who were involved. Discussion should be focused on the process the students have just gone through.

Some initiatives to choose from:

The Beam: The object is to get the whole patrol over a beam, six feet or more above the ground, starting on one side and finishing on the other. The trees and lashings at either end of the beam may not be used for assistance. Nobody can dive or be pushed over the beam without first having a good grip around it. Use spotters. Practice proper landing technique; land on both feet bending knees to absorb force.

The Tripod: The object is to construct some device using four logs and a piece of rope which will support the combined weight of all participants at least one foot off the ground.

Blindfold Lineup: Whisper numbers or letters or different animal names to each participant. With only non-verbal communication, the patrol will arrange itself in consecutive order -- or tallest animal to shortest animal by making only their sounds.

Marooned: The whole patrol will get on to one selected rock or stump. More interesting if the rock is in the water. (Beware of surrounding rocks, stumps, etc., which could cause injury if falls occur.)

Trust Walk: Half the patrol is blindfolded and paired with the other half who leads them to a destination without verbal communication: running, feeling trees, smelling plants -- using imagination.

Tent: Set up the tent when all but one person is blindfolded; they can talk but the one person cannot touch the others (or all blindfolded, or half).

The Monster: The participants must join themselves together to form a monster that walks with both his hands and feet on the ground. The number of feet that can touch the ground is one more than the number of participants. The number of hands is equal to half the participants. The patrol must be touching each other at all times and must move some assigned distance.

Electric Fence: The group must get over a rope or string without touching it or the two supporting trees. They are allowed to use any (or specified) equipment but this cannot touch the rope or string either.

Trust Throw: Take turns at being thrown into the air and caught on linked hands of others.

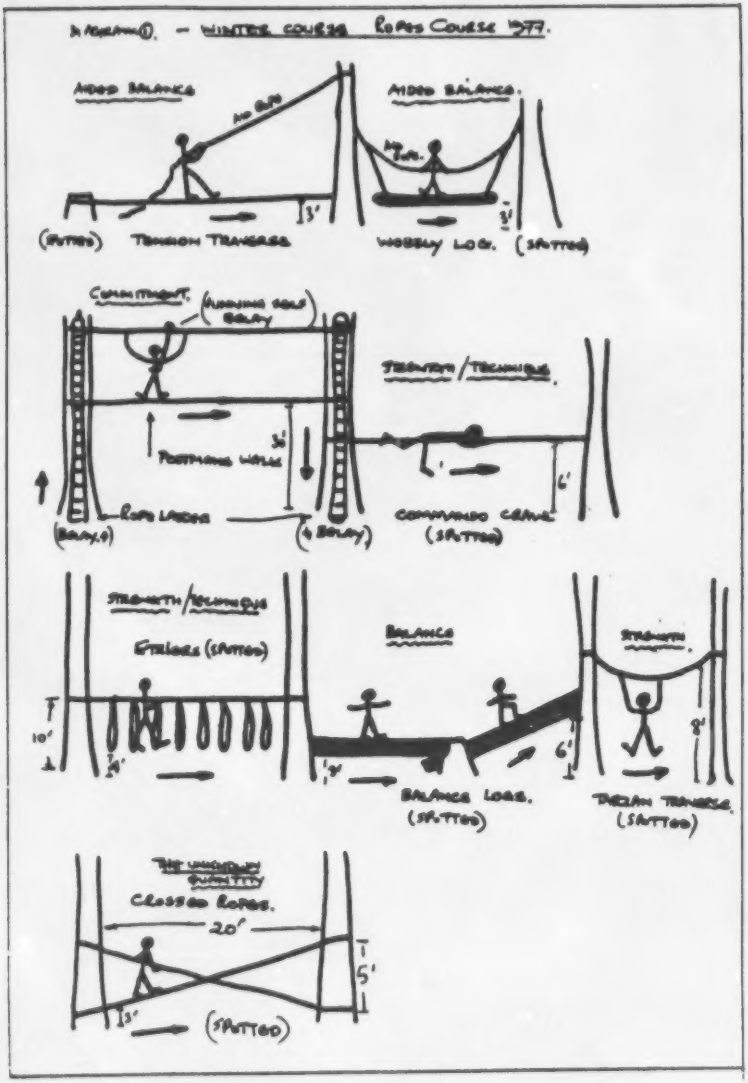
Rope Walk: To get the group from point A to point B as quickly as possible. The group must tie themselves into a rope at five-foot intervals. An interesting approach is to have the group members blindfolded.

(Reference: Initiative Games, edited by Benjy Simpson.)
Cowtails & Cobras, Project Adventure

2) Ropes Course - A ropes course exercise may require some or all of the following qualities:

-balance	e.g., tightrope
-commitment	e.g., postman's walk
-agility	e.g., etriers
-strength	e.g., rope climbing
-problem solving	e.g., crossed ropes

A good ropes course has problems utilizing all of the above and not overstressing any one aspect, e.g., strength.



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-Ropes course exercises need not be too high to have impact

-Safety system needs to be simple

-Some activities can be set up where it needs a pair to complete it

-An effective ending to a ropes course may be a sensational event, e.g., zip or "king swing" or a problem solving activity which many will fail on and have to go back and try to have success

-Diagram 1 was a very simple but effective ropes course used on the winter courses, January - March, 1977

First Aid

PURPOSE - To develop the group's ability to handle first aid situations and thus enable them to function safely without Instructor supervision.

NOBS SAFETY PROCEDURE - First aid training must be provided for students before unaccompanied group travel in undertaken. Curriculum should include at least treatment of:

-Foot problems (blisters, infections)
-Respiratory failure and cardiac arrest
-Bleeding
-Care of an unconscious victim
-Heat and cold related injuries (hypothermia drill)
-Shock
-Fractures
-Spinal and head injuries

-All staff responsible for students shall have at least a Standard American Red Cross certificate and a CPR certificate from American Red Cross or Heart Association, or equivalent training approved by School Director.

-Instructors will carry a copy of Medicine for Mountaineering, Wilkerson for reference.
-The use of all contents in the first aid kits will be discussed with students in the initial stage of the course.
-First aid kits and emergency equipment, where appropriate, will be present at all Outward Bound activities and commensurate with the activity.
-Each student will take part in a hypothermia drill.

CONSIDERATIONS - Prevention is better than cure!! The ability to anticipate and prevent first aid situations is invaluable.

-Making students aware of the medical problems which can arise in the field and their prevention will help build a good attitude toward safety consciousness.
-First aid training is a continuous process, best carried out in series of short time blocks.
-Reading from the Manual's first aid section does little to hold student attention.
  1) Relate stories of past problems and actual incidents.
  2) Use qualified patrol members to assist in presentation.
-Many potential problems can be avoided by the practice of good personal hygiene, adequate diet, and intake of fluids and camp sanitation.
-Point out that the first aid kits have a copy of Mountaineering Medicine as a reference and that the NOBS Student Handbook contains first aid notes.

SYLLABUS - Break into three or more sessions

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EXAMINING PATIENT

1) Keep calm
2) Without moving victim, check for life-threatening injuries
3) Check breathing, pulse, major bleeding
4) Feel inside waterproof clothing for blood pooling
5) After treating life-threatening conditions check over body starting from head down to toes
6) Constant check on pulse and general condition
7) Maintain airway with victim on side or stomach as conditions permit

CARDIO-PULMONARY RESUSCITATION

Training should follow the outline of the current Red Cross CPR certificate even though we can not fully complete all the training offered by Red Cross. We should not practice chest compressions on live victims and many instructors prefer not to do artificial respiration on live victims. Encourage students to complete Red Cross certification after the course.

Normally if a person is known to have been without oxygen for 4-6 minutes then major brain damage can be assumed and attempting resusatation is questionable. There have been incidents of drowning in cold water where a complete recovery has been made after 38 minutes of immersion however.

Initial steps in CPR process are:

1. Airway: tip head and check breathing
2. 4 quick breaths (if no breathing)
3. Check pulse and breathing
4. Give CPR, mouth-to-mouth, or watch victim as needed

Artificial Respiration

1) Mouth-to-mouth resuscitation. Explain and demonstrate, then have student practice:
2) Place victim on his back (clear mouth of any foreign materials, if necessary). Rescuer kneels at victim's side, facing his head.
3) Tilt victim's head back and/or pull jaw so that it juts forward to open airway. Pinch nostrils closed.
4) Rescuer takes a deep breath, places his widely opened mouth over victim's mouth and blows so that chest is observed to rise.

5) If chest does not rise, then air exchange is not effected, recheck head and jaw position and recheck for foreign materials in mouth. It may be necessary to turn victim on his side and strike him sharply between the shoulder blades to dislodge foreign matter from the trachea. Demonstrate abdominal thrust for obstructed airway.
6) Give four quick breaths initially, then continue breathing vigorously into victim's mouth at rate of about 12 breaths per minute (one every five seconds).
7) Stomach may become distended if air is forced into the esophagus instead of the lungs. If this happens, moderate pressure with the palm on the upper abdomen should be used to force the air back out. At the same time, turn head sideways to prevent possible aspiration of vomit.

3) Artificial Circulation

Cardiac arrest is always accompanied by cessation of respiration, so unless oxygen is simultaneously supplied by artificial respiration, nothing will be gained by manually pumping blood around the body. The general idea is to manually and rhythmically compress the heart while inflating the lungs. With two rescuers, one performs compression continuously at 60 per minute and the other ventilates the lungs quickly every five compressions, taking care not to disturb the rhythm of the heart compression.

If only one rescuer is present, he must proceed as follows:

1) Perform heart compression fifteen times at rate of 80 per minute
2) Give two very quick lung inflations
3) Continue a repeating sequence of two ventilations and fifteen compressions

Explain and demonstrate the techniques of cardiac compression. Do not practice on live victims:

1) Place victim on his back on a firm surface. A single rescuer kneels beside the victim's chest so that he can quickly alternate between breathing and compression. Two rescuers would kneel on opposite sides of the victim with the ventilator positioned beside the victim's head.
2) Airway must be cleared and the lungs ventilated as above.
3) Place the heel of one hand on the lower half of the victim's sternum 1 to 1½ inches above ziphoid. The fingers should be over but not touching, the victim's ribs, and the heel of the other hand is placed on the back of the first hand.
4) Rescuer leans forward, keeping his elbows straight, until his shoulders are directly above the victim's sternum, exerting pressure from body weight to depress the sternum 1½ - 2 inches. Maintain a continuous and rhythmic 1 second cycle of 60% compression and 40% release.
5) Check pulse or pupil response to test effectiveness of CPR. Do not interrupt CPR to check pupil.

SEVERE EXTERNAL/INTERNAL BLEEDING

Almost all bleeding can be stopped by applying pressure directly to the wound by hand for a few minutes. The bare hand may be used, but a cloth or dressing (the cleaner the better) is preferred. Do not remove blood-soaked dressings; add more on top if needed. The use of tourniquets is seldom appropriate except perhaps in amputations.

Internal Bleeding - There is little one can do but to stabilize the condition. If stomach or bladder areas are suspected, do not give any liquid. Watch pulse and general condition. Raise legs (except for head injuries) to induce blood supply to core. Helicopter evacuation may well be the course of action. DO NOT USE PAIN RELEAVING MEDICATION.

HEAD INJURIES

Head injuries -- Explain the following to students and point out that the manual Mountainteering Medicine in the patrol first aid kit has a section on head injuries which they should consult in an emergency rather than try to rely on memory:

1) Bleeding from scalp wounds is often extensive because of the large number of blood vessels, but it can usually be controlled readily by direct pressure.
2) Foreign objects imbedded in the skull should be bandaged in place.
3) Any injury to the brain nearly always results in unconsciousness. The duration and depth of the coma correlates roughly with the severity of brain damage. Any head injury that results in unconsciousness is cause for evacuation to a doctor.
4) Unconsciousness of a few minutes' duration or less may indicate only mild concussion. The victim may be allowed to walk out under his own power if he is alert, but he must be carefully watched for dizziness, weakness, confusion, or loss of balance or coordination.
5) Prolonged or repeated loss of consciousness indicates more serious brain damage. Carry-out should be effected as soon as possible after any head injury for which any of the following signs are present:

    a) bleeding from ears, nose or mouth (other than that caused by local injury).
    b) clear, watery liquid draining from ears or nose.
    c) unequal pupil dilation.
    d) unconsciousness or stupor.
    e) loss of muscle power or sensation in any area.
    f) inability to stand with eyes closed.
    g) inability to walk under control.
    h) a second lapse into coma after regaining consciousness.

SPINAL INJURIES

Fractures of the back and neck are among the most demanding problems to be dealt with in the field because of the danger of causing death or permanent paralysis by damaging the spinal cord during treatment. This danger is generally greatest for neck fractures, and diminishes the further down the spinal column the fracture occurs. Any bending or twisting of the fractured spine may cause irreversible damage to the spinal cord; therefore, rigidity must be maintained during diagnosis, splinting and evacuation. When spinal injury is suspected, do not allow the neck to bend forward, but perform the following checks:

1) Determine if neck or back hurts. Severe pain in the absence of local bruises indicates possible fracture.
2) Determine if neck muscles are tense and rigid. The victim of a serious neck injury will not want to move his neck.
3) If other injuries permit, test for loss of sensation by stroking both arms and both legs and asking if feeling is abnormal.
4) Positive indication on any of these checks warrants treatment for fractured neck or back, the essence of which is extremely careful splinting and evacuation. The victim should be splinted as he lies. Do not attempt to straighten neck or back merely for convenience of splinting and evacuation. Any adjustements necessary for splinting must be done without bending or twisting the spinal column. If the neck must be straightened to open airway, gentle traction should be used. The neck should be immobilized on the stretcher with pads beneath and on both sides. The stretcher should also have pads to support the small of the back and to pad the head, shoulders, buttocks and heels. Use a Stokes litter or rigid board for evacuation. Helicopter is the preferred evacuation method.

SHOCK

This is basically a condition of cardio-vascular failure due to loss of blood or to problems in the mechanisms for blood vessel control. This results in an inadequate blood supply to the brain. Shock must be anticipated and treated in every serious injury regardless of whether symptoms are observed. Important symptoms are:

1) Weakness
2) Pale, clammy skin
3) Pupils dilated; eyes often vacant
4) Nausea
5) Breathing shallow and irregular
6) Pulse rapid and weak

Explain and demonstrate treatment for shock:

1) keep patient lying on his back. Reassurance.
2) elevate legs (except in cases of head injury or if it causes pain or difficulty in breathing).
3) maintain body heat.

HYPOTHERMIA

Whenever body heat is lost faster than it can be produced, body temperature begins to drop. Conditions that tend to promote heat loss are wind, low air temperatures, inadequate insulation (notably wet clothing), heavy breathing, and conductive losses by contact with cold objects (such as sitting on the ground). Factors tending to reduce bodily heat production are fatigue, inadequate caloric intake, and insufficient muscular exertion. Small, slender people are most likely to have a low ratio of heat production to heat loss because of their low ratio of body volume (heat producing) to surface area (heat dissipating).

The body responds to heat loss first by involuntary constricting of blood vessels to the skin, particularly in the extremeties. As cooling progresses the following symptoms appear:

1) shivering, becoming intense and uncontrollable.
2) violent shivering, apathy, deterioration of mental processes.
3) shivering changes to muscular rigidity; loss of coordination; continued loss of comprehension, but victim may still appear rational.
4) victim becomes irrational and disoriented; muscular rigidity continues; pulse and respiration depressed.
5) victim loses consciousness; reflexes cease to function; heartbeat becomes erratic, eyes become glassy; extremeties freeze.

NOTE: Early symptoms may be absent and victim may progress rapidly to severe hypothermia.

Prevention of hypothermia centers around controlling heat losses while maintaining heat production.

Stress these points:

1) carry adequate raingear and insulation, particularly wool.
2) eat adequately and frequently; increase in heat production is prompt but brief for carbohydrates, prolonged and higher for proteins, slow for fats.
3) be alert for symptoms when pushing to exhaustion.

*Increase these precautions under cold, rainy and windy conditions.

Treatment consists of providing additional heat to victim; providing extra insulation will not suffice to halt progressive heat loss. The following steps will be useful in the field:

1) prevent further heat loss by moving victim to best shelter immediately available; remove wet clothing.

2) place victim in pre-warmed sleeping bag. If room permits and additional people are available, put others in the bag to provide warmth. All should be stripped to underwear to promote heat transfer. Hot water bottles, or other warm objects may also be used to provide heat; care must be taken not to burn victim.
3) If victim is conscious, provide warm fluids and foods (particularly carbohydrates such as sugar or candy).

HEAT INJURIES

Although mid-summer temperatures in the mountains are not generally high, the physical stress levels occasionally reached on Outward Bound courses may cause excessive production of heat. Adequate fluid and salt intake generally will keep serious heat problems from developing. There are three major types:

1) Muscle cramps. Generally induced by a combination of salt depletion and strenuous muscular exertion. Stretching the cramped muscle often provides quick relief, and oral administration of salt water (one teaspoon of salt to a quart of water) will relieve salt deficiency.
2) Heat exhaustion. Caused by prolonged physical exertion in a hot environment. Blood vessels in the skin become so dilated that blood supply to the brain and other vital organs is impoverished. Symptoms are weakness, dizziness, headache, nausea, faintness, pupils dilated, skin moist and clammy, temperature normal or even low. Treatment consists of rest in a cool place and administration of salt water. Recovery should be prompt but further heat stress should be avoided.
3) Heat stroke. Caused by a failure of the sweating mechanism, usually due to depletion of the sweat glands due to prolonged sweating. Onset is often very abrupt, victim quickly becomes confused,

delirious, or unconscious. The skin is hot and dry, temperature very high, often above 105 degrees. This is a true medical emergency and the victim may die if he is not cooled immediately. Immersion in cold water is ideal, but wet clothing, snow and vigorous fanning would help in the absence of a water bath. Cooling can be stopped when the victim's temperature diminishes, but evacuation should proceed without delay and the victim should be watched for relapse into high fever.

Three factors make the onset of heatstroke more likely:

1) Lack of heat acclimitisation. 100% heat dissipation improvement in 2 weeks.
2) Low level of physical fitness
3) 'heavy' body build, either muscle or fat students falling into the above categories should be monitored closely in hot conditions.

4) Sunburn. Highly reflective surfaces such as snow or light-colored rock often promote burning on areas usually in shadow, such as beneath the nose and chin. Opaque clothing provides sure protection; various sun creams are less effective, but specialized screening creams such as zinc oxide, if a good coating is maintained, generally will suffice. Mild sunburn can be treated with any soothing cream and should be protected from further radiation until pain subsides. Severe sunburn may require treatment as for a thermal burn.

TICK FEVER

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A variety of infectious conditions may be caused by microorganisms transmitted by tick bites. There is an incubation period of five to seven days between the bite and the first symptoms -- weakness and chills, followed by nausea, headache, fever, and pain which is

often localized in eyes, back or large joints. The best known variety of tick fever is Rocky Mountain Spotted Fever in which measle-like spots occur three to five days after onset; the spots are often concentrated on the wrists, ankles and feet, spreading to the limbs, trunk and forehead.

Ticks can be active from March to July. Daily checks for ticks should be made in this season if exposure has taken place. Ticks usually do not bite immediately after landing, but move to warm, hary places on the body. A variety of imaginative methods are available to encourage ticks to withdraw if they have already bitten when detected.

DIARRHEA

May be caused by a change in diet, but other causes include viral and bacterial infections. The symptoms are frequent passage of loose, often water stools, frequently accompanied by stomach cramps. It is not generally possible to determine by the abruptness, severity, or duration of the symptoms which of the many causative agents is operating.

Prevention consists of boiling or treating questionable drinking water with iodine or chlorox. Hands should be scrupulously washed after use of the latrine. Eating and cooking vessels should be cleaned immediately after use and may be sanitized with chlorox at re-supply. Control of post solo eating is important to preventing problems after solo. The practice of sharing water bottles should be discouraged as this contributes to spread of infection among patrol.

Treatment consists of patience and of maintaining adequate fluid intake; often the disorder lasts only a few hours. Persistent diarrhea which causes no undue discomfort can safely be tolerated; if accompanied by stomach cramps or nausea, medical attention may be warranted. Lomotil from the Instructor first aid kit may be used for persisten diarrhea.

HYPERVENTILATION

Excessively rapid and heavy breathing may cause carbon dioxide to be exhaled so rapidly that the chemical balance of the blood is shifted. This problem most commonly occurs when anxiety or emotional stress causes a person to react by heavy breathing.

Symptoms are shortness of breath, dizziness, numbness of the hands and mouth, faintness, apprehension, and a sense of suffocation. Breathing is often in gasps, and muscle spasms frequently occur.

Treatment consists of reassurance to mitigate the underlying anxiety. The symptoms can be relieved by having the victim breathe in and out of a plastic bag to boost carbon dioxide level.

STRAINS AND SPRAINS

A strain is a tear in muscle fibers or a rupture of the muscle lining, and usually results in pain and tenderness near the mid-portion of the muscle. Strains generally do not cause problems other than discomfort which may be substantial and prolonged. Cold applications immediately after injury may reduce swelling. A strain usually heals spontaneously and readily if care is taken to guard against recurrence.

A sprain is the tearing of ligaments around a joint resulting in pain, swelling and often discoloration. A severe sprain cannot be readily distinguished from a fracture, and should be treated as such. Ankle sprains are particularly common, see following section on supportive taping.

FROSTBITE

Frostbite is a possibility on winter courses, but is uncommon in the summer. Attention to early symptoms can prevent it. Cold conditions constrict blood supply to extremities. Affected areas will feel cold and the skin will be white. Rewarming at this stage will prevent tissue freezing and will cure the problem. Use available heat sources -- clothes, shelter, hot water,

a friend's stomach. If frostbite occurs, the tissue will be frozen solid. Rewarming is extremely painful and should be done in a hospital or when no further use of the frostbitten part is required. Sterile conditions are necessary after re-warming. A water bath maintained around 105 degrees is used for re-warming.

SNOWBLINDNESS

Exposure of the eye surface to ultraviolet radiation can cause painful burns, although as with other types of sunburn no discomfort is usually felt until a few hours after the damage takes place. The eyes may become red and watery, with swollen lids and disabling sensitivity to movement or light. Snowblindness can be prevented by using goggles or sunglasses curved sufficiently to block reflected light coming at the sides. A spare pair of goggles are included in each patrol first aid kit. Snowblindness heals spontaneously in a few days; cold compresses and shielding from light may provide relief. Make sure you wear dark glasses for snow travel even on overcase days.

BURNS AND SCALDS

Cool area as quickly as possible with water, snow, etc. Carefully wash burned area with antiseptic solution. Remove all debris from burn. Dress with gauze to keep clean. Expose burn to the air as much as possible without contaminating. Any 2nd or 3rd degree burns covering more than 15% of body carries a serious risk of shock. The victim may need intravenous and antibiotic therapy and should be promptly evacuated. Fluid intake should be high sollowing a burn.

SNAKEBITE

All snakebite victims should receive medical attention. If a victim can be transported to the hospital within 30 minutes the following steps should be taken:

-The victim should remain as inactive as possible.
-Keep the victim calm. Having the victim lie down will help. Treat for shock.
-Immobilize the bitten extremity. Keep the extremity at or below heart level.
-Transport the victim to the hospital.

If, however, the hospital cannot be reached for a number of hours, the following procedures should be used:

-First, follow the first three procedures above.
-Closely monitor the condition of the victim. The general condition of the victim, as well as the area around the bite, should be watched.
-If little or no symptoms develop, treat the bite like any wound, and continue to monitor the patients condition.
-If mild symptoms develop apply a constricting band from 5 to 10 cm. above the bite (between the bite and the heart), but the band should not go around a joint, the head, the neck or the trunk. The band should be 10 cm. wide; it should be snug, and loose enough to slip one finger underneath. The purpose of the band is to impede the lymph flow, but not the blood flow. Be alert for swelling. Loosen the band if it becomes too tight, but do not remove it. Periodically check the pulse in the extremity beyond the bite.
-Mild to moderate symptoms include mild swelling or discoloration and mild to moderate pain at the wound site with tingling sensations, rapid pulse, weakness, dimness of vision, nausea, vomiting and shortness of breath.
-If severe symptoms develop, incisions and suction should be performed immediately. Apply a constricting band., if not already done, and make a cut in the skin with a sharp sterilized blade through the fang mark(s). Cuts should be no deeper than just through the skin, and should be 1/2" long. Cuts should be made along the long axis of the limb. DO NOT make cross cuts of X incisions. DO NOT make incisions on the

head, neck, or trunk. Suction should be applied for 30 minutes with a suction cup or the mouth. Recent studies show that there is little value in the cut and suck method, if it is not started within 30 minutes of the bite.

-Severe symptoms include rapid swelling and numbness, followed by severe pain at the wound site. Other effects include pinpoint pupils, twitching, slurred speech, shock, convulsions, paralysis, unconsciousness and no breathing or pulse.

Other Considerations:

1. Shock: Keep the victim lying down and comfortable, maintain body temperature.

2. Breathing and heartbeat: If breathing stops, give mouth to mouth resuscitation. If breathing stops and there is no pulse, cardiopulmonary resuscitation (CPR) should be performed by those trained to do so.

3. Identifying the snake: If the snake can be killed without risk or delay, it should be brought, with care, to the hospital for identification.

4. Cleaning the bitten area: The bitten area may be washed with soap and water and blotted dry with sterile gauze. Dressing and bandages can be applied, but only for a short period of time.

5. Cold therapy: Cold compresses, ice, dry ice, chemical ice packs, spray refreigerants, and other methods of cold therapy are NOT recommended in the first aid treatment of snakebite.

6. Medicine to relieve pain: A medicine not containing aspirin can be given to the victim for relief of pain. DO NOT give alcohol, sedatives, aspirin or other medications.

ALLERGIES

Most often an allergic student is aware of the cause but he may or may not have medication. Occasionally, a previously unknown allergy will develop, usually associated with changes in diet or environment. Symptoms: itching, rashes, wheezing, sneezing, respiratory difficulties. Treatment: antihistamine according to directions. If severe condition persists, evacuation may be required.

BEE STINGS

If a severe allergy is mentioned on a medical form, students are instructed to bring an injectible medication. Check that they have it and carry a NOBS kit if they don't. In other occasional cases, treat with antihistamine. Prepare for possible evacuation if severe symptoms develop and persist.

FRACTURES

Types:

a) closed - no break in skin
b) open or (compound) fractures in which the broken ends are protruding

Splinting - we must immobilize

a) securing fracture with appropriate materials, i.e., ensolite, ice axe, branch, other limbs
b) securing fracture line - bandage above and below fracture site
c) secure joints above and below fracture site
d) totally secure broken limb

Considerations

a) use padding for comfort
b) do not hurry - talk to victim - if they can help, let them

c) after splinting, observe any change in the color of the extremity. Possible constriction of blood flow
d) if an open fracture, a ring pad and a sterile dressing is needed over the protruding ends.
e) if in doubt, immobilize
f) monitor circulation after splinting

DISLOCATION

A dislocation is a tearing or stretching of ligments around a joing, followed by displacement of the head of a bone from its socket. The shoulder is the most commonly dislocated joint, and the following remarks are limited to dislocated shoulders:

Symptoms: Shoulder appears angular, arm cannot be voluntarily moved, muscle spasm. Considerable pain. If possible victim should be evacuated to have dislocation reduced. Treatment is to place the victim face down on a surface that allows the extended arm to dangle freely. A 10 or 15 pound weight is taped or strapped to his wrist to provide traction on the injured shoulder. After an hour or so the shoulder muscles will usually tire to the point that the humerus slips back into position. Often the victim of a dislocation will know how to reset the limb and can instruct you how to help. A person whose shoulder dislocates frequently should not participate in Outward Bound.

FIRST AID INCIDENTS

1) Ideal training is to set up incidents for the group to handle.
2) Split the group in half and let each group pose a problem for the others. Then allow them to critique the other group.

3) When splinting or bandaging, work in pairs and allocate each person a couple of fractures to splint.

References: "Emergency Care and Transportation of Sick and Injured", A.A.O.S.

"Medicine for Mountaineering", Wilkerson

"Advanced First Aid", American Red Cross.

ANKLE INJURIES

This section is intended as a resource for staff and not particularly for use as part of the student training syllabus.

Each year, students suffer ankle and knee injuries due to overstrain, badly fitting boots or recurrance of an old injury. The following considerations and illustrations may help you in diagnosing, preventing further injury and generally supporting of those injuries.

Diagram 1 shows the most universal method of strapping the ankle -- 1½" tape is used and is applied directly to the skin after shaving. The Diagram assumes the injury is on the outside of the leg.

Ankle Taping:

1) If taping for a lateral sprain, instruct student to hold the foot at a right angle with a slight outward rotation.
2) Start all vertical strips on the inside of the leg with the pull or tension up the outside of the leg. This will add much more support to the outside of the ankle.
3) Reverse the procedure if the injury is on the inside of the ankle.
4) Diagram 1

Fig. (a) Start the first up strip a minimum of four inches above the ankle on the inside of the leg; carry it down behind the malleolus (ankle bone), under the heel, and up the outside of the posterior surface of the leg to just below the calf. The first circular strip starts just above the ankle bone and completely encircles the leg.

Fig.(b) The second vertical strip (starting on the inside of the leg) starts with a slight overlap at the top to an overlap of approximately 3/4 of an inch over each malleoli (ankle bones) thus getting a fanning effect. The second circular strip overlaps (3/4 of an inch) circular strip number 2.

Fig.(c&d) The third vertical and circular strips follow the same overlapping lines as the second strips. Circular strip number 7 overlaps and anchors the top of the strips. You will note we start circular strips 7, 8, 9 and 10 at the top of the vertical strips and work down the leg. The reason for this is that as a rule, circular strips 7, 8, 9 and 10 are above the shoe tops and if they are applied up the leg and become loose,they will all loosen. By applying them as in Fig. d, strip number 8 holds number 7, 9 holds 8, 10 holds 9, and the shoe anchors 10. It, and circular strips 8, 9 and 10, in

DIAGRAM 1 ANKLE TAPING

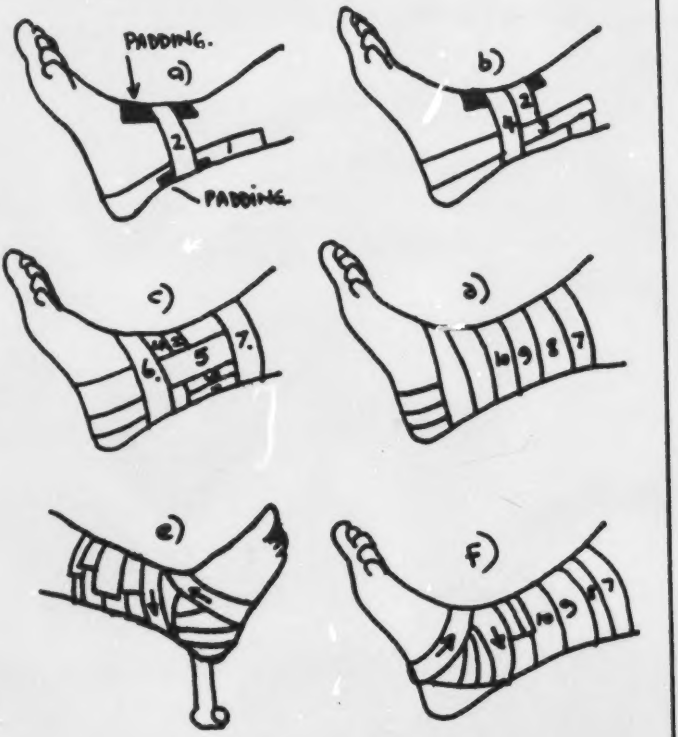

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Fig. d, should start high, swing low behind the leg and end high (at starting point). By using this "loop" you follow the contour of the leg -- getting a smoother application of tape with less chance of cutting off circulation.

Fig.(e) Circular strips 8, 9 and 10 overlap each other as they work down the leg from circular strip number 7. Start of heel lock (Louisiana lock).

Fig.(f) Complete ankle taping. Be especially sure not to leave any open spaces along the achilles tendon as this will cause a pinching or a blister.

Ankle Wraps: This is one of the best methods of wrapping an ankle for support without a lot of taping. Use a two-inch Ace bandage.

A) The sock is worn to protect the wrap from cutting into the skin.

B) Diagram 2:

1) Position the foot so the toes point to the ceiling and apply two or three strips of tape under the heel (these strips should be pulled snug).

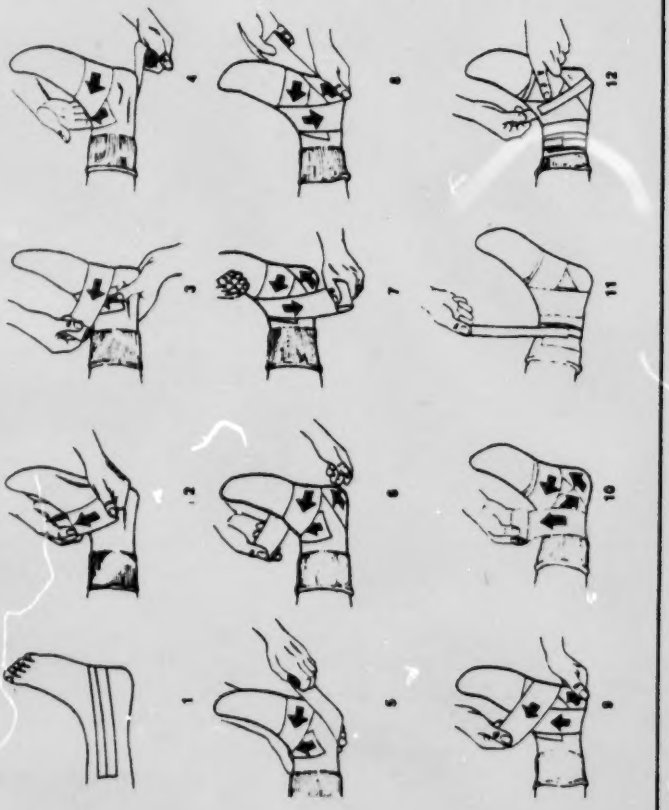
2) Start the wrap on the outside of the ankle and go across the instep.

3-9) Then continue as illustrated making sure to wrap smooth and wrinkle-free. A loose or a wrinkled ankle wrap can cause blisters.

Repeat 3-9) To provide two lifts on each side of the heel.

9) Following step 9, spiral the wrap up over the ankle (10) several times and secure the wrap with two pieces of tape, one around the top (11) and one across the heel (12).

DIAGRAM 2 ANKLE WRAP



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Achilles Tendon: A tendon pull is an injury that may be sudden and usually immediately disabling. A less painful strain of the achilles tendon may develop more gradually.

The student will sometimes feel:

1) A sharp snap and be in extreme pain
2) He will be able to pinpoint the area
3) Movement will often produce a grating sound.

Diagram 3 shows taping, designed to prevent the achilles from overstretching. Use one inch tape.

KNEE INJURY

The most important item is to become familiar with the sequence of the mechanism of the injury.

1) Direct questions - What did you hear? What did you feel? Did it give out? Was there an obvious noise? Did it click? Did it pop? Did it snap? What type of pain was there?
2) Compare with normal knee.
3) Palpate for abnormal shape on point of pain.
4) Check range of motion.
5) When first studying the injury, the viewer should observe whether the athlete is able to support his weight flat-footed on the injured leg or whether he must stand or walk on his toes. Toe walking is an indication that the person is holding his knee in a splinted position to avoid pain or held in a flex position because of a wedge of dislocated meniscus or knee cartilage.

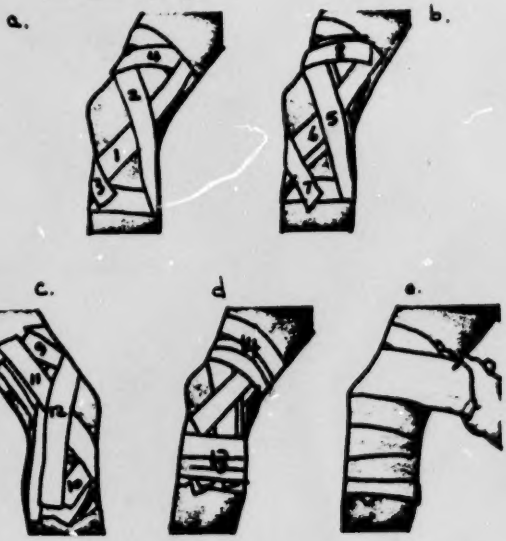
-No amount of taping or bracing can be of benefit to the knee without adequate muscle strength.
-Taping or bracking accomplishes two purposes:

1) it allows the student to carry on
2) the tape restricts the knee's movement to a degree so further straining can be avoided.

-Taping (Diagram 4) -

DIAGRAM 3

DIAGRAM 4.



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*The desired angle of bend in the knee is determined by raising the heel and supporting it with a one or two inch block, etc.
*Next, put on upper and lower anchors as shown in Fig.(a) and apply the "x" strips 1 and 2 on the inside, pulling from the bottom anchor to the top. Apply strips 3 and 4 on the outside.
*Fig.(b) Indicates the next series of four strips (5, 6, 7, 8) that overlap the first four and move toward the patella (knee cap).
*Fig.(c) Shows a lateral view of the knee with four more vertical strips (9, 10, 11, 12) overlapping and again moving toward the knee cap. (Do not tape over the edge of the knee cap.)
*Three anchor strips (13 below and 14 above) hold the vertical support strips in place. Fig.(d).
*The strapping is complete and a 4-inch elastic wrap is applied to help secure all edges and give some additional pressure and support to the knee. Fig.(e).
*Every knee injury is different. Thus, variations are often necessary for the individual problem. Additional strength can be given this application by rolling over the edge of the tape as it passes by the knee cap. This helps prevent tape from splitting. Additional flexibility can be offered by using some elastic tape.

-Diagram 5 -- For additional medial, lateral ligament or cartilage strength and support this method of taping can be used alone or incorporated with the regular knee taping method. Apply this strapping first and if advisable, follow with the medial, lateral, cartilage application.

-Use 1½" or 2" regular adhesive tape.
-Place a 4" x 4" felt pad ¼" thick, on the back of the knee to prevent cutting into the popliteal area.
-Have the individual in a standing position with the heel supported ona one or two-inch pad. By extending the knee determine where the pain

DIAGRAM 5.

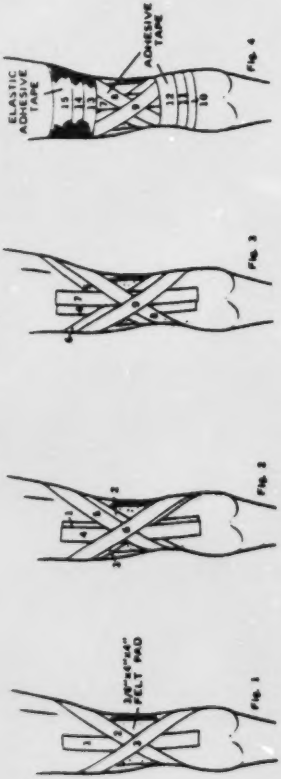

DIAGRAM 6.

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starts -- then flex the knee (short of pain) and tape in the following manner:

1) Strips 1, 2, 3 are the first three strips of regular adhesive tape.
2) Continue to basketweave the tape with strips 4, 5, 6 overlapping 1, 2, 3 as follows:
   Number 4 to inside of Number 1
   Number 5 to top of Number 2
   Number 6 to top of Number 3
3) Continue with strips 7, 8, 9 overlapping 1, 2, 3 as follows:
   Number 7 to outside of Number 1
   Number 8 to bottom of Number 2
   Number 9 to bottom of Number 3.
4) For additional support and if necessary to cover the entire gauze pad, continue with three additional strips.

At this point, you can incorporate the medial, lateral, or cartilage taping method for additional strength and support, or secure the perpendicular strips as follows:

5) Using regular adhesive tape encircle the leg (following its contour) starting at the calf with strip 10 which is overlapped and held by Number 11 and then 12.
6) Moving above the knee joint, using elastic adhesive (regular) tape may cut off circulation) encircle the leg with 13, 14, 15.

Fallen Arches -

-The first symptom to look for is a gradual soreness in the arch or in the achilles tendon.
-When the arch becomes strained it can cause the achilles tendon to be stretched.
-Reduce work load (i.e., lighter pack) until pain subsides.
-Tape the ankles daily. Fallen arches pass extra strain on to tother parts of the foot, ankle and lower leg.

-Diagram 6 shows taping for the standard arch support, which provides support for weakened ligaments and helps relieve pressure from the injured arch.

Map and Compass Navigation

SYLLABUS - 2 sessions

1) Map
   a) mountain navigation
   b) maps
   c) contours
   d) orientation
2) Compass
   a) use of compass
   b) calculating bearing from map
   c) walking on bearing
   d) resection

SESSION 1 - Map

Mountain Navigation

*Technique of determining one's present location, location of objective and picking route between two.

*Stress importance of OBSERVATION. Indians traveled without maps, relying on observation. Observation is a prerequisite for map and compass use. It is a continuous process from start of course to end and involves knowing direction and distance traveled, prominent features passed, etc.

Maps -

*Care of map: fold so name visible; carry in plastic bag.

*Types of possible maps: pictorial, sketch, planimetric, topographic.

*Firmly establish meaning of map as plan or aerial view.
*Map drawn with true north at top; concepts of latitude, longitude; vertical sides of map converge toward North Pole, although apparently parallel.
*Scale of map.
*Margin references (name, date prepared, scale, latitude, longitide, adjacent quadrangles, contour interval, magnetic declination).
*Man-made features (buildings, roads, mines, etc.) are printed in black on map.
*Water symbols (lakes, streams, permanent snow/ice) are printed in blue on map.
*Vegetation features (woodland, marsh, scrub, etc.) are printed in green on map.
*Elevation features are printed in brown on map. Every fourth or fifth contour is printed heavier, these "index contours" have elevations printed on them.
*Orienting the map from terrain features, not from a compass.
*Mention township and range lines and their use for pinpointing a location.
*Some practical problems at this stage are helpful, before people's attention begins to wander. Have them find distances between specified places by scaling from map. Use scale on compass. Measuring distance along curving trails in small, approximately straight steps. Everyone should be able to answer the "how far is it to _____?" question for themselves by now.

*Start keeping track of time taken to cover various distances so students begin to learn time requirements for travel on various types of terrain.

Contours -

*History of representation of relief (perspective drawing, shading, coloring 3-D maps). Get people thinking of problem of representing 3-D information on 2-D maps.
*Firmly establish principle of contour lines and the vertical interval between them. This is the crucial point in visualizing the country from the

map. The following aids may help:

-A coutour line represents an imaginary line of constant elevation on the earth's surface.

-If a person walked along a hillside, going neither up nor down, his path could be called a contour line. Seen from an airplane, this path would conform to one of the brown lines of the map.

-The elevation difference between adjacent contour lines remains constant -- the "contour interval" indicated on the lower margin.

-Stone in bowl. Add water inch by inch and mark water line on stone.

-Lake margins are always contour lines. If waterlevel rose it would trace out in turn each of the contour lines shown on map.

-Think of contour lines as representing a staircase viewed from above. When lines are close together, stair treads are narrow and stairs are steep. Further apart and treads are longer, not so steep.

*Explain how you determine which direction is uphill and which downhill at any point on map. This seems self-evident but needs to be said to people unfamiliar with maps.

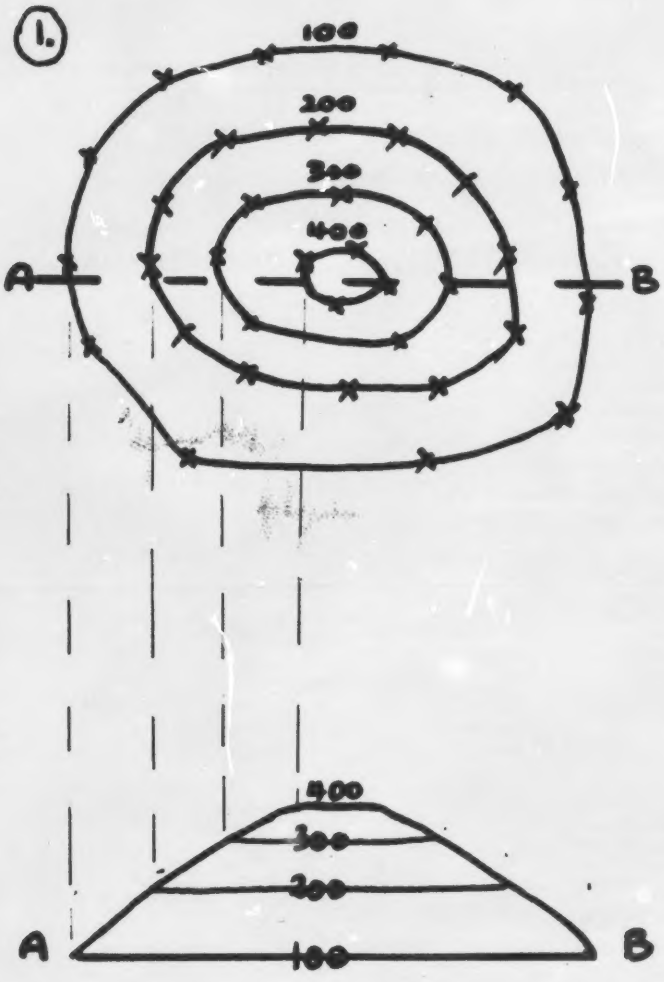
*Use the following sketches and cross-sections to illustrate steep and shallow slope, convex slope, concave slope, ridge, valley, summit. Have people find examples of each on the map.

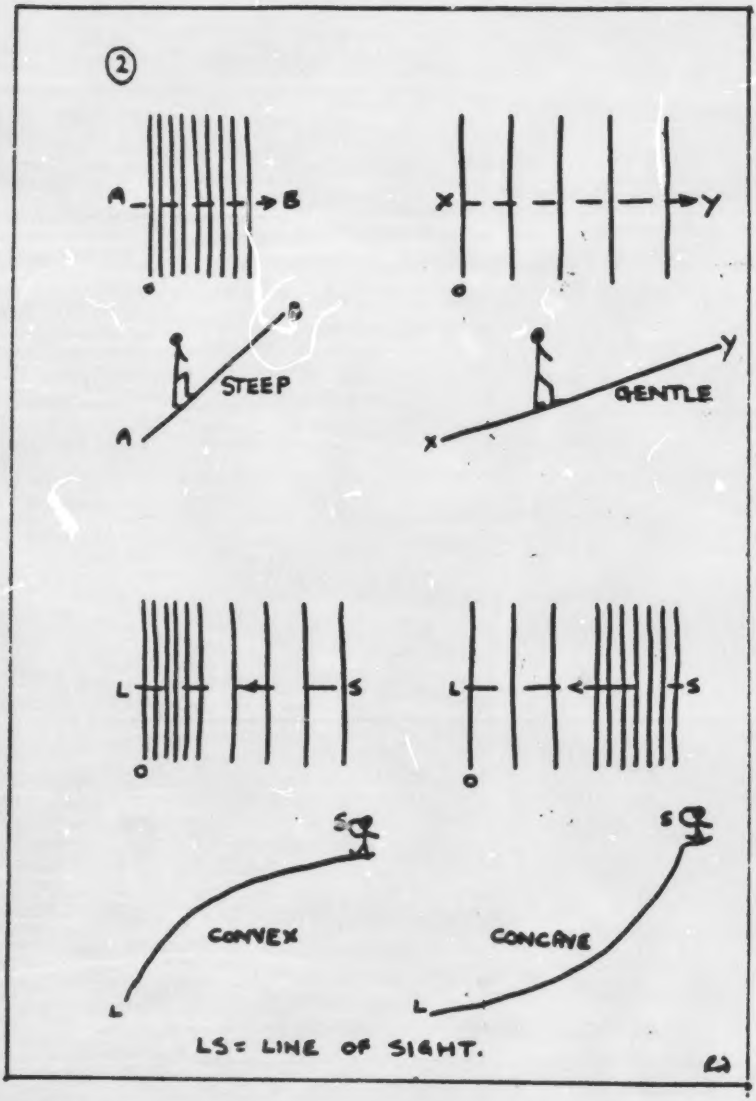
*Pick a rock and have people draw a contour map of it. Draw contour maps of other objects; e.g., cone, hemisphere, tent/tarp, VW, etc. This lets you know who can demonstrate an understanding of what you've said, and an opportunity to provide help for individuals who are having difficulties.

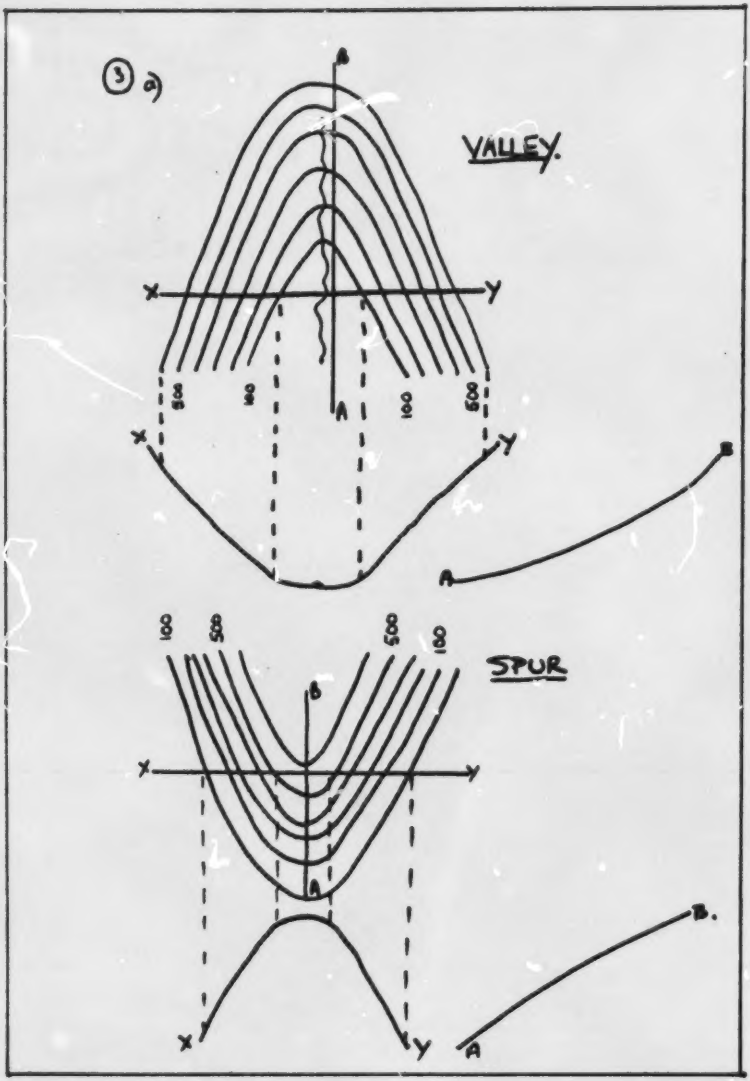
*Stress the need for individual practice in familiarization with these concepts at rest stops and camps. Repeat the need for careful observation of terrain covered.

Orientation -

Show how to orient map from terrain. Diagram 4 may be helpful. Explain why this is done and make sure everyone can do it.




②
A
B
STEEP
X
Y
GENTLE
L
S
CONVEX
CONCAVE
LS= LINE OF SIGHT.



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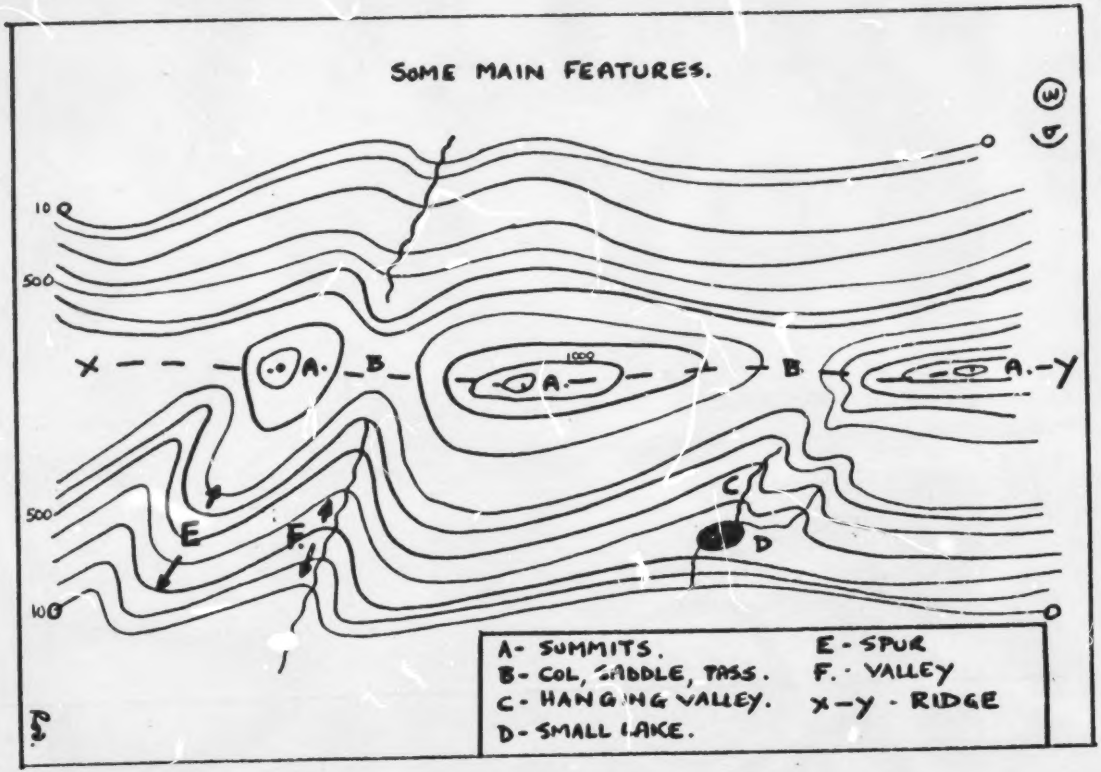

DIAGRAM (4)

ORIENTING MAP WITH LAND.

1. YOU ESTABLISH YOUR DIRECTION OF TRAVEL ON LAND.
2. YOU ESTABLISH DIRECTION OF N.

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SESSION 2 - Compass

Use of Compass -

*Describe parts of a Silva compass (Diagram 5)

-Compass needle points to MAGNETIC NORTH.
-Establish difference between TRUE NORTH and MAGNETIC NORTH and concept of magnetic declination.
-Use of compass to orient map. Explain reasons for orienting map.
-Set scale on compass housing to zero (north).
-Lay edge of compass parallel to edge of map, with direction of travel arrow pointing north.
-Rotate map and compass until end of needle points to MAGNETIC NORTH (magnetic north is east-clockwise-from true north 22° in Washington, 20° in Oregon, 18° in Idaho).

*Use of compass as a protractor. Have people practice drawing lines at various angles to a given line and measuring the angle between two given lines, so they thoroughly understand this.

Calculating a Bearing From a Map -

*What is a bearing? It is an angle, measured clockwise, between some reference direction, e.g. TRUE NORTH, MAGNETIC NORTH and the direction of travel, etc.
*Always try and estimate your bearing before you calculate it. If there is a gross difference, an error has been made.
*Lay edge of base plate on map, passing through your present position and through the objective. Direction of travel arrow points to objective.
*Rotate compass housing (without disturbing compass), until the orienting lines are parallel with the edge of the map and the N sign points to TRUE NORTH.
*Read bearing where direction of travel arrow and index line meet.

DIAGRAM 5

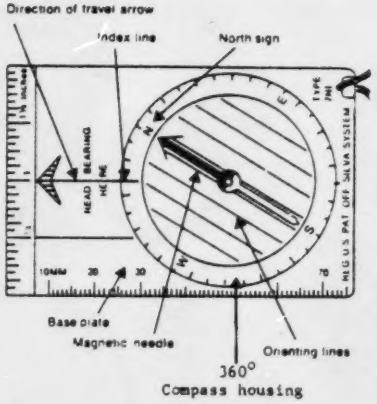
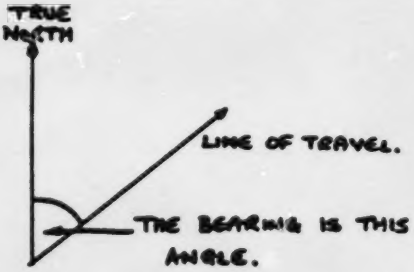


DIAGRAM 6



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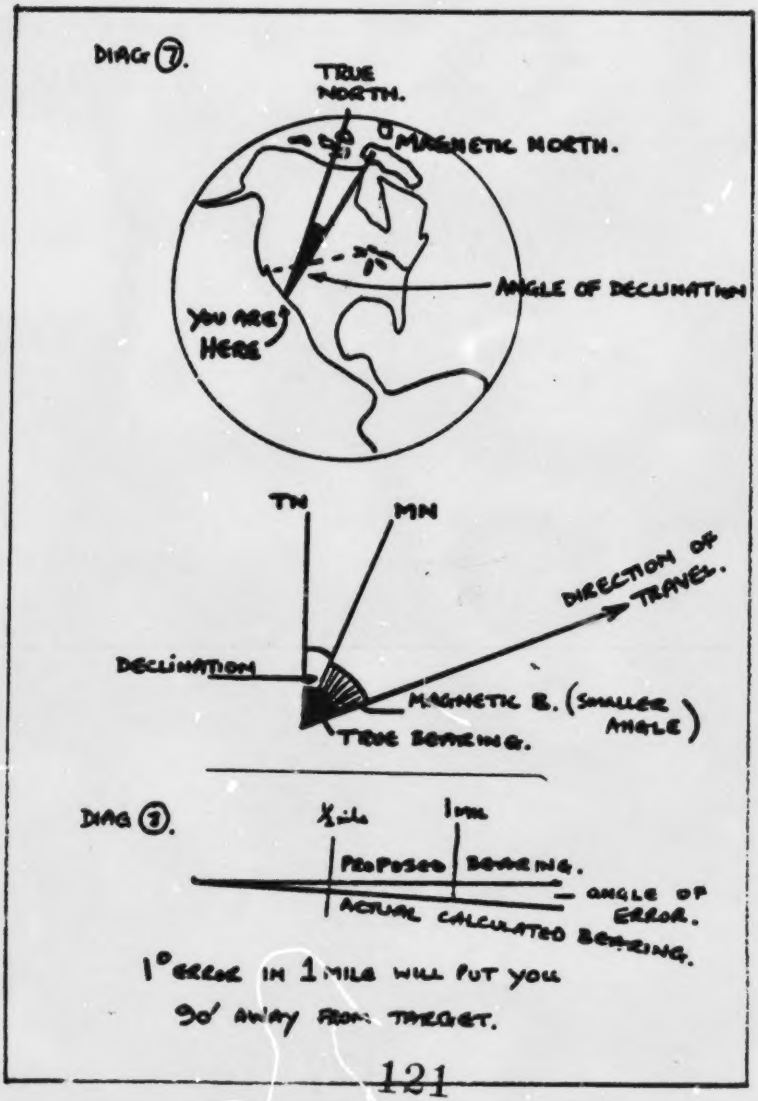
*That is a TRUE BEARING. Because we referred to TRUE NORTH to calculate it.

Walking on Bearing -

*We can more conveniently refer to MAGNETIC NORTH than TRUE NORTH when walking on bearing.
*Explain the difference between TRUE NORTH and MAGNETIC NORTH. (Diagram 7)
*We have to convert our TRUE BEARING to a MAGNETIC BEARING. Subtract the angle of declination and you have the MAGNETIC BEARING. (Ref Diagram 7)
*Hold the compass level and in front of you. Rotate your whole body until the magnetic needle points to the N sign. Follow direction of travel arrow.
*Metal objects (i.e., ice axes, shovels, etc.) attract the magnetic needle.
*Angle of error if bearing not taken accurately. (Diagram 8)
*Techniques of walking on a bearing:
    a) line of sight - boulder, tree, etc.
    b) leap-frogging
    c) walking around obstacles
    d) "aiming off"
*The map DOES NOT have to be oriented to calculate a bearing.
*At this stage, it is good to do an Orienteering Course individually or in pairs.
*Give the group bearings to calculate and then compare.
*Have pace and time themselves over a set distance -- on and off trail.
*Walk triangles, squares, etc., and come back to same point.

Resection (Triangulation) - To determine your position relative to known features around you.

*Sight along the direction of travel arrow to the feature you can identify.



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*Holding the compass in this position the compass housing until the magnetic needle points to the N sign.
*Now you have a MAGNETIC BEARING, referred to MAGNETIC NORTH, to the feature.
*Identify the feature on the map -- ADD the declination onto your compass. (Because the map is relative to TRUE NORTH.)
*Place the compass on the map with the edge of the base plate through the feature. Direction of travel arrow points from your approximate position towards the feature.
*Using this point as a swivel, rotate the WHOLE COMPASS until the orienting lines are parallel with the edge of the map.
*Draw a line along the edge of the compass.
*Repeat this process to another identifiable feature. Where the two lines (or preferably three), intersect you will have determined your position.
*The map DOES NOT have to be oriented to resect.

References: Topographic maps (Free from U.S.G.S.)

"Map, Compass and Camp Fire," Donald E. Ratliff.

"Be Expert With Map and Compass," Kjellstrom.

"Orienteering," John Disley.

Snow Travel

PURPOSE - To ensure that students are able to travel safely on snow slopes and glaciers. Develop individual confidence and group teamwork.

NOBS SAFETY PROCEDURE - All students must be able to perform self-arrest, with pack, before travelling on steep snow.
-On steep terrain with a poor run out; belays, fixed ropes,or rope teams must be used.
-Team arrest techniques must be practiced before any reliance is put on them.
-Students must wear hard hats when using ice axes.
-Students will not travel in areas where a crevasse fall is a hazard without staff supervision.
-Use a spike protector during snow school.

CONSIDERATIONS - Choose the snow school site carefully. Look for a spot with no obstacles, a clear run out and progressively steeper slopes.
-Glissade only on appropriate slopes with students who you feel are competent.

SYLLABUS

Moving on Snow
Ice Axe
Self Arrest
Glissading
Team Arrest
Snow Belays
Glacier Travel
Crevasse Rescue

Moving on snow -

*Step kicking - up, down and traverse
-stress evenly spaced - yet close together
-step angled slightly down into snow
-stand well into step to improve leader's steps
-maintain good body position - don't lean into slope
-change the lead regularly when ascending
-downhill plunge step - heel first, weight over feet.

Ice Axe -

*Identify parts: head, adze, pick, shaft and spike.
*How to hold and carry the axe:
a) hand over head - adze pointing forward
b) usually in uphill hand

Self Arrest -

*The ability to stop an involuntary slide or fall on snow is one of the most important skills to be acquired.
*For control during the arrest place one hand on the axe head and one on the shaft near the spike.
*A slight arch of the spine concentrates body weight on the toes and on the axe.
*Students must receive instruction in and practice:
-braking on both left and right sides
-head first slide (on back and chest)

Glissading -

*Acquaint the students with the following methods of glissading:
-sitting
-three point

Team Arrest -

*The roped team may afford greater security than the reliance on individuals to self arrest. It is not as reliable as a belay and should be used in situations with a considerable runout to allow time for the team to arrest. This technique is primarily a morale booster for an apprehensive student.
*A minimum student roped team is four.
*Rope between the climbers must be fully extended.
*If a team member slips he should scream "falling"; all other members of the team will immediately drop into arrest position.

Snow Belays -

*Dead men are excellent when available and placed correctly.
*Snow bollard: size varies with type of snow or ice; generally never less than 5 feet in diameter.
*Ice axe as snow stake: essential to use a metal shaft, hammered into hard snow. Never use just one axe for an anchor as this is a notoriously weak form of anchor.
*Ice axe as a dead man -- placed horizontally better then vertical placement
*Boot/axe belay: questionable unless executed correctly in hard snow

Crevasse Rescue -

*For crevasse rescue practice students should be wearing a swami belt with leg loops.

*Cover various methods:
-single pulley on victim method
-Z-pulley
-ten-person brute strength haul out.

Glacier Travel -

*Acquaint students with the natural history of glaciers; their origins, erosional force, features and motion.

*Students should wear a swami belt with leg loops, and be tied in by an approved method. (See Rock Climbing page 122).

*Tie a figure eight on a bight of rope directly in front of the swami tie-in. In the event of a team arrest for a crevasse fall, an ice axe anchor can be placed in the figure of eight loop. In this way, the tension is taken off the person holding the fall who can then get out of arrest position and aid in the rescue.

*Prior to travelling on a glacier and to aid students in jetisonning their pack in the event of a crevasse fall, have them girth hitch their prussik loops to their pack frame and clip them into the figure eight loops on the rope.

*Wear hard hats
*Take into account that crevasses are extremely cold environments, whatever the air temperature. Dress accordingly.
*Identify and explain natural hazards -- hidden crevasses, bergschrunds, seracs, snow bridges.
*Employ good travel techniques: cross snow bridges one at a time; cross visible or suspected crevasses at right angles; don't cluster together during rest stops in questionable terrain, ensure rope is always tight.

References: "Freedom of the Hills," Mountaineers, Part Four.

"Modern Snow and Ice Techniques," Bill Marsh.

Rock Climbing and Rappel

PURPOSE - These are major program elements that are at once challenges in themselves and skills necessary for further mountaineering. In a very physical way, these activities build both trust and a sense of responsibility. They almost universally frighten participants and require that they cope with fear well enough to function in spite of it.

NOBS SAFETY PROCEDURES -

-All climbing areas should be cleaned by Chief Instructor or delegate prior to student use.
-Control students carefully near edge of cliff.
-Keep students out of the path of possible rockfall. Have a spectating area to the side of the cliff.

-Enforce the use of hard hats at the climbing area. Wear your own.
-Equipment will be checked at the beginning of each climbing day.
-No one will climb with students without permission of the School Director.
-All student climbers and rappellers will have an upper belay.
-Supervisors must ensure rope between belayer and climber is adequately taut.
-Students must demonstrate competence before belaying.
-All belayers will be anchored. The anchor should be independent of the rappel ropes when rappelling.
-Each belayer should be closely supervised by a competent staff member. Generally no more than two belayers per supervisor.
-Instructors must check the student tie-in to the climbing rope.
-Student descent from the top of the cliff should be straight-forward or supervised by staff.
-First aid and evacuation gear should be available at the rock climbing/rappelling area.
-If appropriate, spotters will be used when bouldering. If spotting provides insufficient safety, climbers will be secured by top roping.
-For tying-in to the climbing rope, use a swami belt with tied leg loops. The climbing rope is tied to the swami by one of the following methods selected by the Chief Instructor.

    -a bowline secured by two half-hitches tied through the swami
    -figure '8' follow through tied through the swami

CONSIDERATIONS

There are many safe ways of setting up a rock climbing site. The following three have worked safely in the past and may be used as appropriate:

1) Staff supervision top and bottom. Staff will supervise belayers at top, and must be able to see and reach belayers. The tie-in at the bottom will be checked by another staff member. This is the safest system and should be used if the student tie-in cannot be plainly observed from the cliff top.
2) Staff supervision, top only. This may be used when the base of the cliff can be seen plainly from the top. When students have mastered the tiein knot they may check each other prior to climbing with the staff members observing only from the cliff top. This system allows twice as many climbing ropes with the same number of staff. Swami should be rechecked by staff if student reties it.
3) Staff supervision, bottom only. If the cliff is less than half a rope length high, the rope can run from the climber through a bombproof anchor at the top of the cliff down to a belayer. Supervision is from the base of the cliff. Climbs must be arranged so that the student at the top has secure stance to throw the rope down

SYLLABUS

-Equipment
-Knots
-Belay school
-Climbing signals
-Rappelling
-Teaching rock climbing

Equipment -

Carabiners - non-locking	oval alloy	2,800 lb.
	oval steel	5,700 lb.
	steel Bonatti	6,000 lb.
	alloy - REI	4,960 lb.
Descendeur - figure '8'		8,800 lb.

Rope

*7/16 goldline: breaking strength 5,500 lb.
*11 mm kernmantel: breaking strength 6,200 lb.
45% stretch at rupture.
*Do not leave rope tightly knotted or stretched longer than necessary.
*Guard against excessive heat. The rope melts easily under excessive friction or if too close to fire or stove.
*Use the climbing ropes only for climbing activities. Special ropes should be used for ropes course.
*Check by running through hands each time rope is coiled and uncoiled. Inspect fuzzy or stiff places for cutting, abrasion or melting.
*Retire ropes if mechanical damage is observed or after major fall. All ropes over four years old should be retired.
*Ropes are color-coded by year of purchase. Both ends have been dyed the following colors:

Red	- pre-1976	Yellow	- 1979
Green	- 1976	Brown	- 1980
Blue	- 1977		
Orange	- 1978		

*Ropes dyed or painted red at various locations are mechanically sound ropes more than four years old and are reserved for ropes course use.
*Train students to check for mechanical damage to a rope as it is being coiled. Report any defects to logistics people when rope is returned to ensure the rope is retired.
*Ropes should not be stood, sat, laid on, etc. If it does get grossly dirty, wash in water and air dry. Don't coil ropes by wrapping under gritty boot and over knee method as this does not remove kinks from coils and makes ropes subsequently difficult to handle.

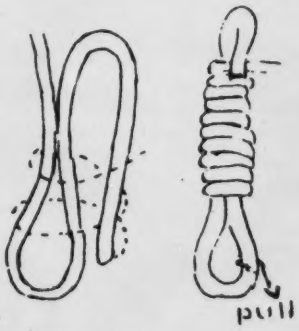
*Keep rope in stuff bag when not in use.
*Knots that are part of zip lines, ropes courses, etc., should be spiked to aid in untying.
*Climbing ropes should not be used for belays on ropes courses where they will be dragged around on dusty ground.

References -

1) Off Belay, #20, "How Old is Your Rope?"
2) A Guide to Mountaineering Ropes, Edelrid.
3) Off Belay, #22, "Sunlight and Climbing Ropes".

Knots - Teach students the following knots and their use:

*Bowline tied off with an overhand. This knot is used to tie the end of the climbing rope to the climber's swami belt.
*Figure-of-eight knot on a bight. This may be used to tie-in to the climbing rope and also to secure a belayer to an anchor. Plus figure-of-eight follow through.
*The water knot or ring bend. This is used with an overhand to secure the ends of a swami belt. This knot is particularly good when webbing in used, although it is not easy to untie after tension.



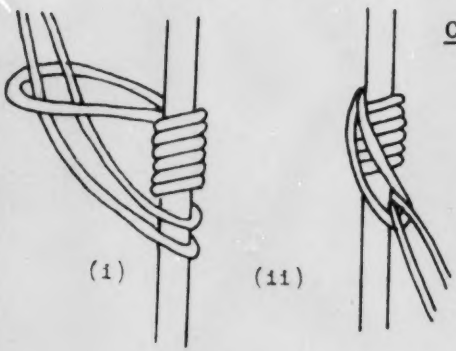
*The prusik hitch. This is used to provide a moving safeguard on fixed line.
*Double Fisherman. Used for making Prusik sling and for joining two climbing ropes for rappel.

Belay School -

*Go over belaying technique and climbing signals in a session prior to using rock climbing/ rappelling area.

*Cover
a) sitting, standing belay in relation to position of anchor point
b) line of pull in relation to anchor point
c) stress taut anchor line

*Preferably find an open slope with trees for anchors when practicing.
*At the beginning of the actual climbing session it is possible to have climbers jump off, simulating a fall, when still low enough on the climb that a faulty belay would not be serious. This gives both belayer and climber confidence in the efficiency of the belay system.



Climbing Signals -

-"ON BELAY". Called by the belayer to let the climber know he is anchored and has assumed responsibility for the climber's safety. (This may also be called up as a question by the climber if he is waiting at the bottom and nothing seems to be happening above).

-"CLIMBING". Called by the climber to indicate he is ready to begin a climb.
-"CLIMB". The final go ahead called by the belayer to indicate he is ready for the climber to start. The climber may begin only after he hears this.
-"UP ROPE". Called by the climber to direct the belayer to tighten the belay.
-"SLACK". Called by the climber to direct the belayer to loosen the belay. Climber should be allowed to "take" slack as he down climbs rather than being "given" an arbitrary amount. Belayer must remain alert for a fall.
-"OFF BELAY". Called by the climber to indicate he is off the climb and no longer needs protection. Only then is the belayer released from his responsibility for the climber's safety. This same signal is usually used by the belayer to acknowledge he has heard and understood the "off belay" signal from the climber.

-"FALLING". Called by the climber the instant he falls.

-"ROCK". Not a rope signal, but an immediate warning shouted to all below to protect themselves from a dislodged rock or other falling object.

Rappelling -

*Consider demonstrating and practicing a body rappel on a secure, low-angle slope before going on to the high rappel.
*Explain the rappel.
1) Body or dulfer: requires no slings or

carabiners; the descent is slowed by friction of the rope against clothing. Padding is needed for hip and shoulder to prevent burns on long and steep rappels. Speed is controlled entirely by the downhill "braking" hand; the uphill hand should grasp the rope high during descent to keep the body upright.

2) Swami with leg loops used with a carabiner figure-of-eight descender or a carabiner brake. Rope should pass through legs from descender or brake and be grasped by braking behind thigh. Additional friction may be obtained by lifting rope around thigh.

*Ensure the rappel set-up does not have too much, or too little friction which will make it hard to either move or stop from moving.

Rock Climbing Teaching Progression -

*Bouldering is a good exercise to familiarize people with the rock, moves and holds.
*Try to give a little history about climbing; Why people climb - the grading system. Your philosophy of climbing.
*Do a demonstration climb so movement on rock, signals and rope management skills can be observed.

MULTI-PITCH ROCK CLIMBS

NOBS SAFETY PROCEDURES

Definition - MULTI-PITCH ROCK CLIMBING which involves more than one rope length of continuous 5th class climbing.

Safety Policy - MULTI-PITCH ROCK CLIMBING

Prior to taking students on Multi-Pitch Rock climbs a staff member must:

1. *Pass a climbing test arranged with the Program director.*
2. *Discuss specific routes to be used with their chief instructor.*

at least one staff member will be on the cliff during a Multi-Pitch Climb and will be within voice contact during the climb.

Students will at all times be wither belayed or anchored to an omni-directional anchor.
Students will receive adequate training in belaying and climbing techniques and be carefully evaluated prior to engaging in Multi-Pitch Rock Climbing.

All normal rock and peak climbing Safety Procedures will be observed during Multi-Pitch Rock Climbs.

MOUNTAINEERING HAZARDS

Fears and physical and mental disabilities, either by themselves or in combination with climbing fatigue and altitude effects, serve to disintegrate a student's judgement, and may cause accidents. Prevention, in some measure, rests with a careful evaluation of what potential hazards the patrol is bringing into the mountains:

- -Attempt to evaluate your students motives for attending the course.
- -Do any members of the patrol have profound or superficial domestic problems, e.g. arguments with parents, personality conflicts, or strong concerns about returning home?
- -Attempt to allay your students' "natural apprehensions", e.g. concerns about cold, mountains, getting lost, sleeping outside, etc. By placing these sorts of concerns in their proper perspective, you can enable the students to deal more effectively with them.
- -Are any members of your patrol obviously neurotic or unstable emotionally?
- -Do any possess physical problems which through some decompensating change might effect their judgement or safety, e.g. diabetes and knee injuries.
- -Remember that the average altitude for an occurrence of pulmonary edema in the United States is 8,500'.

You should also be alert to the potential hazards within the environment and realize that, in a very real sense, your energy, alertness, and competence can and must ensure the student's safety. You must be especially cautious when you are fatigued or the only staff member available.

Potential Hazards

Storms:

-It is imperative that the entire group stay together during a severe storm.
-The staff must assume a more directive role in storm conditions. You must actively inquire about the students' well being. Are they warm and dry? Have they eaten? Are they properly hydrated? Not only must you be more directive, but you must also be responsible for the morale of the group. During very serious conditions, every effort should be made to assure, and motivate the students.
-As soon as the threat of mist, rain, or snow becomes apparent, your exact position should be determined.
-Descent of technical terrain should be extremely cautious. Consider bivouacing or sheltering during the most violent parts of a storm.
-Surfaces covered with grass or vegetation become extremely hazardous when covered with verglass - don't assume that a grassy slope will offer safety.
-It may be advisable to mark your route so that you can retrace it if that becomes necessary - do not descend unknown technical routes.
-In the event that you become lost, or if the conditions become too severe, bivouac. A properly established bivouac is infinitely superior to, and less hazardous than, blindly wandering about.
-Bivouac if you are overtaken by darkness. Give yourself plenty of time to establish a safe and hopefully comfortable site.

Lightning: Lightning is an indescriminate killer of anyone who is in the wrong place at the wrong time. Lightning hazard is greatest during thunderstorms, which are most common on summer afternoons and evenings. The electrical discharge always follows the path of least electrical resistance, which makes high promontories and isolated trees particularly dangerous. Prevention centers around:

-Planning all peak climbs with an early enough start to be back in a valley or a low slope by early afternoon.
-Getting off ridges, high cols, and hilltops at the first sign of buildup of thunderheads.
-Avoiding the shelter of isolated trees and of overhanging rock walls.
-If caught out, get off high places and squat down on boot soles or sit on a dry rope or a pack. Do not sit on the ground. Don't huddle all together.

Persons injured by lightning may need treatment for cessation of respiration, cardiac arrest, and burns.

Loose Rock: The very fine art of conducting a group safely in areas of loose rock includes:

-Always wear a hard hat when in gullies or on slopes of loose rock.
-Teach students how to travel on scree, in boulder fields, on rocky slopes, in gullies, and on ridges. Emphasize the dangers of loose rock on steep terrain.
-Keep students out of the fall line of those above. Shout "ROCK!" whenever a rock falls or whenever the call "ROCK!" is heard.
-Look up to see and avoid a rock falling from above. If the rock might be too close, it is best to duck without looking up first.
-In areas endangered by loose rock, maintain alertness and mobility - do not sit down and never turn your back to those above you.
-Strategies of safe group travel.
--Ascend or descend on diagonals, clustering at a switchback so that no person is traveling above another. For efficient movement, switchbacks should be as lengthy and as steep as terrain will safely allow.
--In steep, tight gullies travel "nose-to-tail" style with each person immediately behind another. If this becomes unwieldy for an entire patrol, move for short distances in twos, threes, or fours, with others waiting in a protected spot.

--Wide slopes of loose rock can be descended side by side. Take care to ensure that the line stays straight; no one should be above or below anyone else.
--In our course areas we are most often concerned with rockfall that we initiate; however, we should also cultivate an awareness of "natural" rockfall possibilities, especially during times of extreme or changeable weather, e.g. heavy rain, a sudden rise or drop in temperature.

Peak Climbs

PURPOSE - The peak climb should utilize many of the previously acquired skills in attaining an exciting and perhaps frightening summit. This may be the culmination of much of the previous training.

*STUDENTS WILL BE TRAINED IN NECESSARY TECHNIQUES BEFORE UNDERTAKING PEAK CLIMBS.

*Discuss good technique for walking and climbing on loose rock; watch where others put their feet, test holds, avoid shuffling feet and kicking rocks. Move rhythmically over large boulders. Step on uphill side of rocks. Make students aware of rockfall danger and their responsibilities to the rest of the group in minimizing the hazard.

*Develop strategies to minimize rockfall hazard:
- -Stress staying close together so that dislodged rocks will not build up momentum before reaching other group members.
- -When zig-zagging, bunch up at the corners.
- -Shout "rock" if anything is dislodged.
- -Wear hard hats - staff and students
- -Never have students directly below each other when rockfall is a hazard.

*Fixed lines should be used as appropriate. Students may clip into horizontal fixed lines with a carabiner; however, for inclined or vertical fixed lines, a Prusik hitch should be used. There must be no more than one student between anchored points on fixed lines. Secure stances should be available at anchor points where students must transfer to another fixed line.

*Belays will be used where fixed lines do not provide adequate security.

*These procedures apply to any technical terrain and not only to peak climbs.

*First aid, evacuation and safety equipment sufficient for likely emergencies will be carried.

*Ensure students eat well before the climb and have adequate snacks.

CONSIDERATIONS - Peak climbs should be demanding and carefully planned events with considerable flexibility in the schedule in case of bad weather or other interruption. Alternative ascents should be available to replace or supplement the primary objectives. Sunrise on the summit, a moonlight climb, or an extended stay on top can provide a most dramatic experience. The descent from the summit can be the most hazardous time of the climb, for people are tired, exhuberant and careless. Extreme caution should be exercised, and students reminded that this is the most common time for accidents.

Service Projects

PURPOSE - "In genuine service to the benefit of others, one best expresses on a day-to-day basis his reverence for life itself". - Kurt Hahn

CONSIDERATIONS

*Should be well planned and presented to students
*Briefing and debriefing should be thorough
*Recognizable accomplishment is needed. Avoid busy work.
*Instructor participation demonstrates belief in the value of the work to students.

Solo

PURPOSE - Requires participants to confront the stress of solitude and subsisting on minimal food. Provices a contrast to the group living situation during the rest of the course. A time for reflection on the values of the experiences and their meaning in relation to the student's life.

NOBS SAFETY PROCEDURE

*Evaluate whether students are physically and psychologically capable of completing solo.
*Students must be monitored daily so that it is certain that they are self-sufficient and do not need assistance.
*A solo will not exceed three days and three nights.
*Students will be issued:
-sufficient food for the length of solo
-all necessary equipment for ordinary safety hazards and extreme conditions
*All solo equipment and checking procedures must be upgraded for adverse weather conditions.
*Student solo sites and instructor camp should be within whistle range of each other.

CONSIDERATIONS

*Most students will not have spent time alone anywhere without distractions. Prepare them ahead of time and encourage them to apply both common sense and imagination in adaptation to a period of solitude and simplicity, but let them develop their own expectations.
*Solo can be an appropriate time for students to write a course impression. The impression can serve as a starting point for the individual Solo debriefing.
*The selection of the Solo site is particularly important. Care should be taken to select sites that provide some shelter and concealment as well as room to roam and explore without hazard. Water should be readily available. Make sure it is somewhere <u>you</u> would like to be for three days.
*Make sure each student understands the boundaries of his Solo area, limitations on travel, and the specific site for a fire if conditions permit. He must know where you will be camped and how to signal with his whistle. Caution him against walking into another student's Solo site and unnecessarily ruining a patrol mate's experience. However, students should respond quickly to emergency signals from nearby students.

*Consider carefully if a fire is an integral part of Solo. Try to avoid if possible. NOTE: If fires are used, Instructor must supervise cleaning of site and extinguishing of fire.
*As much care and thought should be given to the end of Solo as to the beginning. Make sure his site is clean before leaving
*Arrange food for students returning from solo that is bland and easily digested. Have several small courses rather than a 'gorgy'.
*A mini-Solo of up to 12 hours can be useful in providing students with rest and relaxation or time to consider individual solutions to group problems. Avoid scheduling it too close to the main Solo, or for the reason of using up unplanned time. The technique is best used as a means of working on a specific assignment. Usually it should not be simply a short version of the Solo.

Reference: "A Solo Survival Experience" by Richard Katz.

Final Expedition

PURPOSE - The Final Expedition can be seen as a "course within a course" where unacquainted students apply all the traveling, camping and group-interaction skills they have developed in the early part of the course to safely traverse their route. It offers a chance for people to "repeat" many of the situations presented them in the first part of the course, but to handle them independently and hopefully more successfully than initially, with resulting feelings of personal achievement and self-worth.

NOBS SAFETY PROCEDURES

*It shall not automatically be assumed that students will engage in an independent unaccompanied journey.

*Unaccompanied expeditions will be designed so as to be compatible with student ability and training, weather, environment, and the available support systems.
*The minimum number of students in any unaccompanied expedition shall be four.
*A staff member will ensure groups are appropriately equipped.

*Routes must be through terrain familiar to staff.
*A supervision system shall be set up so that staff are in a position to protect students at places of significant hazard. The supervision system shall be consistant with the environment, prevailing and anticipated conditions and abilities of the final expedition group.
*A group on an unaccompanied expedition shall not traverse terrain more hazardous than was previously covered with staff.
*Student expedition groups must be evaluated at least daily by staff to ensure they can safely continue the expedition.
*A briefing for unaccompanied expeditions shall be made by the course director or his delegate and must include all restrictions and emergency procedures.
*There will be an instructor assigned to each group. to check the equipment and to make sure all rules, restrictions, objectives and emergency procedures are clearly understood. This instructor must have his group's itinerary prior to their departure.
*One student in each group should be capable of taking a leadership role in an emergency. This person should be designated emergency leader by staff. There will not be more groups than there are qualified leaders.

CONSIDERATIONS

Route Selection - It will be the Chief Instructor's responsibility to confer with Instructors and design suitable routes for students and match routes

to the demonstrated abilities of the Final Expedition groups. Several types of routes are possible, depending on the abilities and demonstrated competence of the participants.

1) Trail hiking and/or cross-country travel.
2) Non-technical peak ascent (Class 1 or 2 on Sierra Club "Decimal System" rating.)
3) Technical peak ascent. Instructor will meet students at start of technical difficulties (Class 3 or above) and stay with the group until the difficulties are completed.
4) Rock climbing expedition. Similar to technical peak ascents, for a group with real interest in developing rock climbing abilities.
5) Specific service work projects might be included in routes.

Route Supervision - A system of checkpoints will be devised by the Chief Instructor so that a daily check on the progress of each group is made. Competent staff will be located at all checkpoints.

Checkpoint staff must decide if the physical and mental condition of the group and climatic conditions permit continuation of the route.

If a group is overdue in reaching a checkpoint, the staff at that checkpoint should initiate a local search as appropriate and notify the Chief Instructor that the group is overdue after 12 hours.

The Chief Instructor must be on call to organize a search or rescue and should have adequate staff available for dispatch on searches. Checkpoints should be closer than one day apart if special hazards exist on a route.

Student Group Selection - Minimum group size is four (4). It is essential that one student be identified as group leader. This individual should have demonstrated competence in map reading,

campcraft, mountain navigation and travel. In addition, the leader must be capable of assuming a firm leadership role in an emergency situation and must be briefed to do so. The abilities of a Final Expedition group must be carefully matched to the anticipated difficulties of the route by the Chief Instructor and Instructors.

Note that the group leader need only be the emergency leader and day-to-day decisions may be made by other processes.

Student Group Briefing - The whole course will be briefed by the Chief Instructor before division into Final Expedition groups. The Chief's briefing will cover at least the following:

1) Emergency procedures. Checkpoint system. Contact local base via telephone. Do not use F.S. or Sheriff except in life-threatening emergency.
2) Never travel alone. Two people come out together if accident happens.
3) Stay together as a group. Follow designated leader when a conflict arises even if you think he/she is wrong.
4) Importance of making checkpoints. Stress absolute obligation of staff to begin search if group is 12 hours overdue and to notify Sheriff if 24 hours elapse without scheduled contact. Leave a note if nobody is around (See below)
5) Any special hazards of terrain or climate. Change route if bad weather threatens. Be cautious in judgments.
6) Weather forecast, if available.
7) Don't beg or steal from other wilderness users. You are representatives of NOBS on your final expedition.
8) Beware of believing directions from other wilderness users. They too may be "confused."

9) What to do if separated from groups.
10) Maintain good camping practices. Pick up trash, put out and clean fires; bury or don't use toilet paper. Dig toilet pits at each overnight camp.
11) Wear hard hats as appropriate.
12) Function of Student Group leader.

Instructor Briefing - The Instructor should brief each Final Expedition group covering at least the following:

1) Route for Final Expedition. Have leaders write out copy of route for each checkpoint staff to ensure accurate communication.
2) Evacuation and escape routes. Location of staff telephones or vehicles.
3) Minimum equipment for individuals and group
4) Emergency procedures and phone numbers (change for phone).
5) Restock first aid kits.
6) Relevant content of Student Handbook.
7) Exact locations of all checkpoints, and checkpoint note procedure if overdue. First aid and drug kits are available at checkpoints.
8) Brief group leader on his responsibilities and any anticipated problem individuals in the group.
9) Repeat points from Chief Instructor briefing.
10) Obtain feedback from student group leader concerning all points of briefing to be sure information has been accurately understood.

Checkpoint Note - If staff are missing from checkpoint the the Final Expedition group will leave a note including the following:

1) Names, first and last
2) Time of arrival and departure at checkpoint
3) Route from this checkpoint
4) Planned camp location tonight
5) Condition of group, physical problems, morale
6) Any specific problems with food, equipment, etc.

7) Leave cairn (pile of rocks) in conspicuous place: beside trail, on prominent geographic feature, etc. Put note in plastic bag to keep it dry.

Marathon

PURPOSE - The marathon is an opportunity for personal growth through prolonged physical and mental challenge.

NOBS SAFETY PROCEDURE

*Marathon routes must be adequately reconnoitered by the Chief Instructor prior to use.
*First aid, rescue and evacuation equipment appropriate to the activity must be available.
*The route will be checkpointed by staff at points where a tired runner may get lost and a staff member with a first aid kit will sweep route behind last student.
*The Chief Instructor must brief staff and students on objectives of marathon, route, known hazards, checkpoints, sweep, dip-site if available.
*Supervise dip in accordance with Water Safety Procedures

CONSIDERATIONS - Marathon route must not be in a populated area or in a Wilderness area.
*The length of the route should be compatible with condition of participants, climate and terrain.
*Consider possible heat exhaustion during run.
*The traditional marathon is normally a long and demanding run undertaken in the early morning before breakfast. This may not always be appropriate and there are other possibilities:

1) Incident Marathon - A run where students have to call at checkpoints. At each checkpoint they have to complete an incident - i.e., blindfolded string trail, swamp walk, commando crawl, bushwhack, etc. Need not be as long as normal marathon but just as demanding physically and mentally.
2) Orienteering Marathon - The student is only given the bearing to the first checkpoint. This is the procedure for each checkpoint. If this type of marathon is undertaken, a normal orienteering event should have been covered beforehand.

Reflection and Evaluation

PURPOSE - Because Outward Bound contains so many intense and unusual experiences, it is all the more important that there be opportunities for reflection and evaluation.

"Learning is thinking about experience". - John Dewey.

Individual Interview -

To establish a personal dialogue with the student the Instructor should make himself available and seek to interview each student in whatever way seems convenient or appropriate. By making himself available to listen or provide advice when requested, he builds a level of personal trust.

Evening Discussions -

Serve to share feelings about the day and to set expectations for the next day. These should be done daily.

Journals -

Strongly encourage your students to keep journals. A journal can be a day-to-day account of accomplishments, goals, ideals, impressions and thoughts. It can be a useful device in evaluating self-growth, and is certainly a lasting record of a unique experience.

Quiet Walk -

A solo walk on a straightforward trail or road can provide an excellent opportunity for observing the environment and for reflection. It's a good contrast to other routines and may set a tone conducive to thoughtful discussion. It may be extended to become a fire watch, sunset/sunrise vigil, or night walk.

Readings -

On a course where activities are primarily physical, some time for readings may be a welcome intellectual respite. Tailor this activity to the mood of the patrol and try to find an appropriate reading.

De-briefings -

These should follow all major program activities. They are valuable in helping students to articulate and understand their reactions to and feelings about activities. They also keep the Instructor in touch with the feelings of the group. It is important to keep these lines of communication open as the group becomes more self-reliant and independent.

Feedback -

"Feedback" is a way of helping another person consider changing his behavior. It is communication to a person (or a group) which gives that person information about how he affects others. As in a guided missle system, feedback helps an individual keep his behavior "on target" and thus better achieve his goals. The following comments on feedback may prove helpful:

*It is descriptive rather than evaluative. By describing one's own reaction, it leaves the individual free to use it or not to use it as he sees fit. By avoiding evaluative language, it reduces the need for the individual to respond defensively.

*It is specific rather than general. To be told that one is "dominating" will probably not be as useful as to be told, "Just now when we were deciding the issue, you did not listen to what others said, and I felt forced to accept your arguments or face attack from you."

*It takes into account the needs of both the receiver and giver of feedback. Feedback can be destructive when it serves only our own need, and fails to consider the needs of the person on the receiving end.

*It is directed toward behavior which the receiver can do something about. Frustration is only increased when a person is reminded of some shortcoming over which he has no control.

*It is solicited, rather than imposed. Feedback is most useful when the receiver himself has formulated the kind of question which those observing him can answer.

*It is well-timed. In general, feedback is most useful at the earliest opportunity after the given behavior (depending, of course, on the person's readiness to hear it, support available from others, etc.).

*It is checked to insure clear communication. One way of doing this is to have the receiver try to rephrase the feedback he has received to see if it corresponds to what the sender had in mind.

Listening Skills -

Many of the group discussions and decisions during the course will be enhanced if students learn the art of effective listening. Point out, at an early stage of the course, that the times when other people are speaking in a group discussion may be utilized in many ways: people may be daydreaming, waiting for a chance to have their say, thinking of ways to refute the speaker, etc. An effective listener concentrates on understanding not only the words, but also the feeling and attitude of the speaker.

In Three Pillars of Zen, Philip Kapleau writes "...everyone should listen with his eyes open and upon the speaker" (hence one sits in a circle) -- "in other words, with his whole being - because an impression received only through the hearing is rather shallow...each person should listen as though the words were for him alone...Human nature is such that if two people listen, each feels only half responsible for understanding, and if ten people are listening, each feels his responsibility to be but one-tenth."

Course Ending

This is a powerful part of the course which can easily be taken too lightly. The impact of course activities and the imminent return to society should be discussed in the Instructor's final interview with students.

Pins and certificates may be awarded by the Chief Instructor or by the Instructor. In either case, a meaningful way of presenting the certificates should be sought. Whatever your own attitude toward certificates, many students will be proud to receive this momento of one of the hardest experiences of their lives -- an Outward Bound course.

River Crossings

NOBS SAFETY PROCEDURE

*A log or bridge is the preferred crossing. Be prepared to hike considerably out of your way in search of these if the river is not clearly fordable. Rig a handline if you are dubious about the students' ability to cross a log.
*If you must wade the river, pick the shallowest (usually widest) stretch of water. Avoid high banks and make sure the entry and exit points are reasonable. Beware of snags downstream which may hold a person.
*Undo waistbands so packs can be dumped quickly if necessary.
*Don't attempt to belay someone across a river. If the person slips, they will be dragged under like a fishing lure. Rig a handline instead, but don't clip into it.
*Students must be supervised on river crossings where consequences of error would be serious.
*Wear boots or tennis shoes for a better grip on slippery rocks and to avoid bruised feet.

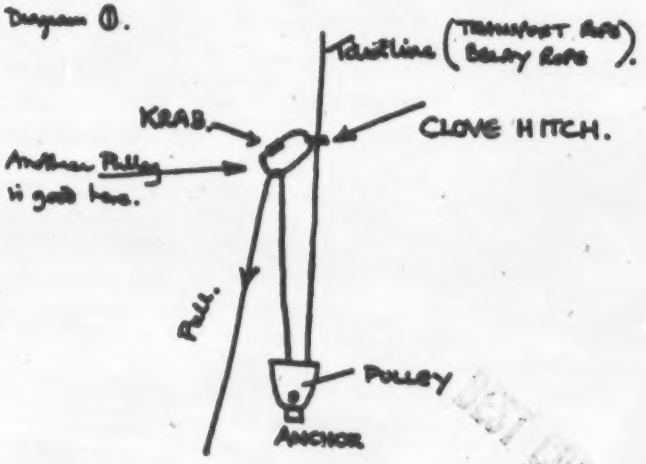
CONSIDERATIONS

*Small and/or light people will be swept off their feet easily. Make allowances for them.
*It may be useful to use a stout stick as a third leg.
*Never face downstream where the force of the water on the back of the legs can cause the knees to give

way. Make sure that one foot is firmly placed before moving the other. Do not cross your legs. Shuffle the feet; don't lift them.

*River level may drop overnight as runoff from snow melting decreases. Make camp and wait until morning if necessary.

*In swift rivers, this procedure is quite effective: form a line facing the opposite bank; all link arms or grasp a pole for support. Proceed across the river together; the people on the upstream side of the line bear the brunt of the current and break its force; the downstream people support them.



A TENSIONING SYSTEM.

BEST COPY AVAILABLE

Reference: Backpacker # April 1979
Crossing a River by Bill March

Tyrolean Traverse

PURPOSE - Like the rappel, this is a functional technique but serves primarily in Outward Bound as a challenge it itself to individuals and to the group. It is most successful if used in a realistic way - to cross a river or crevasse - rather than to get from one tree to another.

NOBS SAFETY PROCEDURE - The Tyrolean traverse should be done with two taut lines, one for travel and the other, above, it, for safety. The climber will travel in a swami clipped to the travel rope with a carabiner. He will be fastened to the safety rope by a waist sling and a second carabiner.

CONSIDERATIONS

1) When tensioning the rope do not use figure 8 knot for carabiner placement - use a clove hitch or butterfly knot.
2) Do not over-tension.
3) Having anchor at beginning of traverse higher than other helps.
4) Pick very strong anchors as loads are high in tyrolean.

Sauna

NOBS SAFETY PROCEDURES

Saunas must be supervised by staff.

CONSIDERATIONS

Saunas offer an excellent method for cleaning up as well as relaxing tired muscles. They are, however, a potential embarrassment both for the school's image and for an individual student.

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Be discrete in locating your sauna and bathing place well away from wilderness users. Choose a place where there is ample wood and your fire scar, if any, can be easily obliterated. Beware of exploding hot rocks, which have been saturated in rivers or lakes. Porus rocks are not suitable.

Beware of burns from hot rocks, stoves, etc., and scraped feet when bathing after the sauna. Refer to "water safety" section for dipping considerations.

Beware of asphyxiation due to a still smoldering fire in sauna. Carry hot rocks from fire to sauna. Do not build sauna over fire.

VI

ADMINISTRATIVE POLICIES

Course Reporting

The following reports must be submitted by the Instructor within 24 hours of the course ending. Paychecks will be awarded upon receipt of satisfactory reports by the Chief Instructor.

*Course Narrative
*Course Plan
*Course Evaluation
*Service Work Report
*Student Course Impressions
*Student Course Critiques
*Trail Reports (at resupply, too)
*Dropout Reports
*Accident/Incident Cards
*Blister Tally

Assistant Instructors need only complete a Course Evaluation.

COURSE NARRATIVE - The Instructor course narrative is mailed to each student within one month of course completion, along with a cover letter from the School Director and the original of the students course impression. The narratives are addressed to several audiences:

1. STUDENTS: For whom they serve as a reminder of the particular incidents and people involved in

the course they have just completed. The main activities of the course, special highs and lows and participants names should be mentioned.

2. PARENTS: Who may not understand the full scope of the activities their child has completed or much of the philosophy of Outward Bound. The narrative should make evident how Outward Bound aims were realized during the particular course.

3. SPONSORS: Receive a copy of the students course Impression, an Instructor narrative and perhaps a personal letter from the individual sponsored. The Sponsor, like the Parent would be interested to learn of the underlying educational purposes of the various course activities and the impact on the student group.

Try for about 1 typewritten page (2-3 handwritten pages) but use more if you wish. Definitely no obscenities. Specimen available in the course area may help give you ideas of what has seemed satisfactory in the past, but use your own creativity in producing a narrative of your patrols course.

COURSE PLAN - Day-by-day account of what actually happened. Mention camp location, instruction given, weather, as well as activity. Use "Course Resume" form if you wish.

COURSE EVALUATION - Your evaluation of the impact of course activities on the students. The following questions are posed as guidelines to assist you in evaluating the course, but are not intended to be all-inclusive. Comment on the pertinent questions and add other appropriate insights.

*Were you satisfied that this course fulfilled students' expectations of an Outward Bound course?
*Orientation and reconnaissance: was it comprehensive enough? Was there a definite course plan?
*Were you pleased with the course beginning? Do you think the introduction and first few days set the climate for a good Outward Bound course?
*Did you feel the training phase of the course covered the essential skills necessary for the students to have a safe Outward Bound course? Was it a safe course?
*Peak climbing and rock climbing: were safety procedures adequate? What was the impact on students?
*Resupply: was it well organized, with adequate equipment available? Other observations?
*Solo: were sites suitable? Was student briefing adequate? Student response?
*Final Expedition: safety and impact? Were routes well planned and matched to student abilities? Adequately checkpointed?
*Course ending and marathon: impact on students?
*Chief Instructor support: problems? Suggestions for improvement?
*Office support: was pre-course information accurate and helpful to students? Other comments?
*Logistical support: food and equipment? Problems? Suggestions?

STUDENT COURSE IMPRESSIONS - Each student is asked to fill out a "Course Impression" over Solo. These can be valuable in helping the student understand and evaluate his experiences in the course. They can also be helpful to the Instructor during final interviews and de-briefing of the course. Student course impressions are sent to sponsors of students who have received scholarships. The course impression gives the sponsor an idea of who benefited from their donation and hopefully will encourage a continuing donation.

STUDENT COURSE CRITIQUES - Filled out on last day of course, these provide an opportunity for feedback on specific aspects of organization of course, rather than on personal reaction to course.

SERVICE WORK REPORT - Fill out the service work form or otherwise document in detail the service work your patrol has undertaken. These forms will be used to compile an annual Service Work Report. We need this information for Forest Service and other public bodies interested in Outward Bound's use of the backcountry. Make note of any potential service projects for future courses.

TRAIL REPORT - At resupply and course ending, your Chief Instructor will ask for a report on trail conditions on the route you have traveled. These are transmitted promptly to the Forest Service, which finds them helpful in answering telephone inquiries from the public and also in planning trail maintenance requirements. Give exact map location of work requirements, e.g., major drainage problem, rebuilding.

DROPOUT REPORTS - Have all dropouts, medical or motivational, write a Course Impression, or other statement of reasons for leaving and feeling about the experience. You should add your insights as appropriate. Be sure to include date of departure.

ACCIDENT/INCIDENT CARDS - Fill these out any time you perform or supervise first aid on a student. Also record near misses which have educational significance. The function of these cards is two-fold: they provide a record of treatment performed in case of subsequent

inquiry by parents, doctors, lawyers, etc. Also, they are compiled into an annual Safety Report which is a useful training tool and future reminder of typical accidents.

Staff Evaluation

You should expect verbal feedback from your Chief Instructor throughout the course on the progress of the patrol and your performance.

At the end of each course a formal evaluation will be written on your performance. The intent in doing this is to clarify your feelings and the Chief's about your ability to run a quality course. The evaluation process will start with Instructor and Assistant writing out self-evaluations. These will be used as a basis for discussion between the Chief and the Instructor - Assistant team. The Chief will then prepare a written evaluation which will be shown to you. If possible, the Program Director will sit in on staff evaluation sessions.

Dropout Procedure/Medical Visits

If a student leaves the course early, you must ensure the following steps are taken:

*The Chief must talk with all dropouts, particularly non-medical ones.
*Have them fill out a course impression giving reasons for leaving.

*Students who leave the course early for non-medical reasons may be charged for costs incurred in transporting them from the course area back to the staging area. Only costs above normal operating costs should be passed along to the student. If the student is under 21, we must be certain on-going travel has been arranged.

*In most cases, call parents and give brief account of why student is leaving. Outline intended travel arrangements and get parents' concurrence. Then let student talk to parents and listen to be sure nothing too outrageously untrue is said. Conclude the conversation with the parents if necessary.

*CALL THE OFFICE with the report of dropout. Name, date, and reasons.

*If the student is a ward of the court, the court must be notified. OB must arrange transportation at the court's direction. The Sheriff must be notified if the student has disappeared from the course.

*When students visit a doctor or hospital during the course, some supervision is necessary, as student may call home with exaggerated tales of woe and alarm parents.

VEHICLE POLICIES & PROCEDURES

Vehicle Policies

Transporting students in vehicles involves students in a risk of injury and a potentially more serious liability claim than in most other course activities. Every effort will be made to minimize student-passenger miles by so arranging the program that vehicle transport is unnecessary.

Vehicles must be driven in a safe fashion. The Chief Instructor is responsible for his course vehicle and will decide who may drive.

School vehicles are a very visible part of Outward Bound's operation and may present a public relations concern. Vehicles must be kept clean and driven courteously, obeying all highway laws.

Vehicle Procedures

Logistics Director will check driving record of current staff prior to season.

Chief Instructors must approve any in-course student transportation.

Chief Instructors will determine who drives a school vehicle and will give preference to:

1) logistics staff
2) drivers who have successfully completed NOBS driver training and screening

In order to drive a school vehicle, you must have a valid operator's license.

Only staff currently on the payroll may drive unless with permission of Program Director or Logistics Director. No students may drive.

Ensure neither vehicle nor trailer is overloaded. Safe load capacities are marked on each vehicle and in log books.

Vehicles must be driven with lights on if conditions warrant; e.g. with trailer, heavy traffic or visibility. Trailers must have safety chain and spring bars hooked up prior to any journey. Check lights before setting off and trailer brake function early in the journey.

Vehicles and/or trailers with Gross Vehicle Weight in excess of 8,000 lbs. must stop at weight stations.

Tire pressures are marked in each vehicle. Check weekly and adjust before and after carrying heavy loads.

The number of passengers in a vehicle will not exceed the number of seats and seatbelts in that vehicle for scheduled transportation of passengers.

Seat belts must be used at all times, if available.

Emergency equipment, as specified in the Logistics Handbook (S6) is to be available in vehicle.

In the event of an accident, make no statement about fault. Take precautions to prevent the scene from causing another accident. Give appropriate first aid. Notify office. The logistics person or the Chief Instructor may suspend a staff member from driving until reviewed by the Program Director.

Fill out driver's log each time you buy gas and oil. This provides the Logistics Director with a record of operating costs.

Note any minor problems with vehicle when you return it to Chief Instructor or logistics staff.

Drivers pay for their own tickets incurred while operating school vehicles.

Maintenance schedules are established by the Logistics Director and the mileage for the next scheduled services is recorded in the logbook.

State law requires that all trucks, pickups, buses, or vehicles transporting participants must come to a full stop at railroad crossings.